

## SEARCH REQUEST FORM

## Scientific and Technical Information Center

Requester's Full Name: Sin J. Lee Examiner #: 76060 Date: 8-10-2005  
 Art Unit: 1752 Phone Number: 302-7333 Serial Number: 101728,801  
 Mail Box and Bldg/Room Location: Rem. Results Format Preferred (circle): PAPER DISK E-MAIL  
(9066)

If more than one search is submitted, please prioritize searches in order of need.

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Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples of relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Plz. see B:b

Inventors (please provide full names): \_\_\_\_\_

Pat. & T.M. Office

Earliest Priority Filing Date: \_\_\_\_\_

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search for a polysilazane having the repeat unit  
 of formula (II) shown in the  
 attached sheet.

## STAFF USE ONLY

	Type of Search	Vendors and cost where applicable
Searcher: <u>LLH</u>	NA Sequence (#) _____	STN <u>8209.17</u>
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) <u>2</u>	Questel/Orbit _____
Date Searcher Picked Up: <u>9/7/05</u>	Bibliographic _____	Dr.Link _____
Date Completed: <u>9/9/05</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: <u>40</u>	Fulltext _____	Sequence Systems _____
Clerical Prep Time: <u>30</u>	Patent Family _____	WWW/Internet _____
Online Time: <u>10</u>	Other _____	Other (specify) _____

Serial No. 10/728,801  
 Filed: December 8, 2003

~~—(RSi(NR<sup>6</sup>)<sub>0.5</sub>O)—, —(RSiO<sub>1.5</sub>)— or —(SiO<sub>2</sub>)—, wherein R and R<sup>6</sup> respectively and independently represent a hydrogen atom, an alkyl group, an alkenyl group, a cycloalkyl group, an aryl group, and alkylamino group or an alkylsilyl group, or~~  
a polysilazane having a number-average molecular weight of between 100 to 100,000, that mainly contains the skeleton represented with the following general formula (II).



wherein R<sup>4</sup> and R<sup>5</sup> respectively and independently represent a hydrogen atom, an alkyl group, an alkenyl group, a cycloalkyl group, an aryl group, a group other than these groups in which the portion bonded directly to the silicon or nitrogen is carbon, an alkylsilyl group, alkylamino group or an alkoxy group, and n is an arbitrary integer, and wherein said photoacid generator is a peroxide.

6. (original) The photosensitive polysilazane composition according to claim 5 wherein said peroxide is selected from t-butyl peroxybenzoate, 3,3',4,4'-tetra(t-butylperoxycarbonyl)benzophenone or  $\alpha,\alpha'$ -bis(t-butylperoxy)diisopropylbenzene.

7. (canceled)

8. (currently amended) ~~The photosensitive polysilazane composition according to claim 7 wherein said~~ A photosensitive polysilazane composition comprising a polysilazane or its modification product and a photoacid generator, wherein said polysilazane or its modification product is

a polysiloxazane having a number-average molecular weight of between 300 to 100,000 that contains, as its main repeating unit, —(RSi(NR<sup>6</sup>)<sub>1.5</sub>)—, —(RSi(NR<sup>6</sup>)O<sub>0.5</sub>)—, —(RSi(NR<sup>6</sup>)<sub>0.5</sub>O)—, —(RSiO<sub>1.5</sub>)— or —(SiO<sub>2</sub>)—, wherein R and R<sup>6</sup> respectively and

=> fil reg

FILE 'REGISTRY' ENTERED AT 17:28:45 ON 08 SEP 2005

=> d his

FILE 'HCAPLUS' ENTERED AT 14:51:38 ON 08 SEP 2005

L1 2 S US20040081912/PN  
SEL RN

FILE 'REGISTRY' ENTERED AT 14:52:03 ON 08 SEP 2005

L2 14 S E1-E14

FILE 'LREGISTRY' ENTERED AT 15:03:31 ON 08 SEP 2005

L3 STR

L4 STR

FILE 'REGISTRY' ENTERED AT 15:05:42 ON 08 SEP 2005

L5 SCR 2043

L6 50 S (L3 OR L4) AND L5

L7 50 S L3 AND L5

L8 2233 S L3 AND L5 FUL

SAV L8 LEE801/A

L9 15 S L4 SAM SUB=L8

L10 289 S L4 FUL SUB=L8

L11 1944 S L8 NOT L10

SAV L10 LEE801A/A

SAV L10 LEE801B/A

L12 5 S L11 AND L2

FILE 'HCAPLUS' ENTERED AT 16:47:58 ON 08 SEP 2005

L13 150 S L10

L14 1313 S L11

L15 16 S L13 AND PHOTO?/SC,SX

L16 6 S L13 AND (PHOTOSENSIT? OR PHOTORESIST?)

L17 16 S L15 OR L16

L18 12 S L13 AND PHOTO?

L19 20 S L17 OR L18

L20 95 S L14 AND PHOTO?/SC,SX

L21 35 S L20 AND (PHOTOSENSIT? OR PHOTORESIST?)

L22 2 S L21 AND L1

=> d que l14

L3 STR

Si~N

1 2

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 2

STEREO ATTRIBUTES: NONE

L4 STR

O~Si~N  
3 1 2

NODE ATTRIBUTES:  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 3

STEREO ATTRIBUTES: NONE  
L5 SCR 2043  
L8 2233 SEA FILE=REGISTRY SSS FUL L3 AND L5  
L10 289 SEA FILE=REGISTRY SUB=L8 SSS FUL L4  
L11 1944 SEA FILE=REGISTRY ABB=ON PLU=ON L8 NOT L10  
L14 1313 SEA FILE=HCAPLUS ABB=ON PLU=ON L11

=> fil hcap  
FILE 'HCAPLUS' ENTERED AT 17:29:01 ON 08 SEP 2005

=> d l21 1-35 ibib abs hitstr hitind

L21 ANSWER 1 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 2005:672723 HCAPLUS  
DOCUMENT NUMBER: 143:155019  
TITLE: Silazane compound, preparation and using the  
silazane in a **photoresist**  
INVENTOR(S): Kim, Kyoung-mi; Youn, Yeu-young; Kim, Jae-ho;  
Kim, Young-ho; Yi, Shi-yong  
PATENT ASSIGNEE(S): S. Korea  
SOURCE: U.S. Pat. Appl. Publ., 11 pp.  
CODEN: USXXCO  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2005164126	A1	20050728	US 2005-33300	2005 0112
PRIORITY APPLN. INFO.:		KR 2004-3307	A	2004 0116

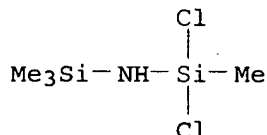
AB An adhesive compound for use with a **photoresist**, the  
compound represented by Cl<sub>2</sub>Si(Me)NHSiMe<sub>3</sub> adhesion promoter, and  
method for forming a **photoresist** pattern using the  
adhesive compound are all disclosed.  
IT **859500-14-4P**, (1,1-Dichloro-1,3,3,3-tetramethyl)disilazane  
homopolymer  
(silazane compound for enhancing adhesion of **photoresist**)

to substrate)  
RN 859500-14-4 HCAPLUS  
CN Silanamine, N-(dichloromethylsilyl)-1,1,1-trimethyl-, homopolymer  
(9CI) (CA INDEX NAME)

CM 1

CRN 34907-66-9

CMF C4 H13 Cl2 N Si2



IC ICM C07F007-10

ICS G03C001-492

INCL 430311000; 556412000

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 29, 74

ST chlorotetramethyldisilazane adhesive **photoresist**

IT Adhesion promoters

Adhesives

**Photoresists**

Primers (paints)

(silazane compound for enhancing adhesion of **photoresist**  
to substrate)

IT 34907-66-9P

(adhesion promoter or primer; silazane compound for enhancing  
adhesion of **photoresist** to substrate)

IT **859500-14-4P**, (1,1-Dichloro-1,3,3,3-tetramethyl)disilazane  
homopolymer

(silazane compound for enhancing adhesion of **photoresist**  
to substrate)

IT 75-79-6, Trichloromethylsilane 999-97-3, Hexamethyldisilazane

(silazane compound for enhancing adhesion of **photoresist**  
to substrate)

L21 ANSWER 2 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:353026 HCAPLUS

DOCUMENT NUMBER: 140:383101

TITLE: **Photosensitive polysilazane**  
composition and method of forming patterned  
polysilazane film

INVENTOR(S): Nagahara, Tatsuro; Matsuo, Hideki; Aoki,  
Tomoko; Yamada, Kazuhiro

PATENT ASSIGNEE(S): Japan

SOURCE: U.S. Pat. Appl. Publ., 17 pp., Cont.-in-part  
of U.S. Ser. No. 806,852, abandoned.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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 US 2004081912 A1 20040429 US 2003-728801 2003  
 1208  
 WO 2000020927 A1 20000413 WO 1999-JP5498 1999  
 1005  
 W: KR, US  
 RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU,  
 MC, NL, PT, SE  
 PRIORITY APPLN. INFO.: JP 1998-282697 A 1998  
 1005  
 WO 1999-JP5498 A 1999  
 1005  
 US 2001-806852 B2 2001  
 0618

AB A **photosensitive** polysilazane which may be used as a  
 pos.-tone **photoresist**, and a method of forming a  
 patterned polysilazane film by use of such a composition are provided.  
 The **photosensitive** polysilazane composition of the invention  
 is characterized by comprising a polysilazane, particularly  
 polymethylsilazane or polyphenylsilazane, and an optically  
 acid-generating agent. The patterned polysilazane film is  
 obtained by exposing a coating of the **photosensitive**  
 polysilazane composition of the invention to light in a pattern and  
 dissolving off the exposed portion.

IT 218954-15-5, Polymethylsilazane 683764-82-1,  
 Poly(phenylsilazane) 683764-84-3, Poly(butylsilazane)  
 (**photosensitive** polysilazane composition and method of  
 forming patterned polysilazane film)

RN 218954-15-5 HCAPLUS

CN Silanimine, 1-methyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 121221-22-5

CMF C H5 N Si

$\text{H}_3\text{C}-\text{SiH}=\text{NH}$

RN 683764-82-1 HCAPLUS

CN Silanimine, 1-phenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 683764-81-0

CMF C6 H7 N Si

$\text{HN}=\text{SiH}-\text{Ph}$

RN 683764-84-3 HCAPLUS  
CN Silanimine, 1-butyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 683764-83-2  
CMF C4 H11 N Si

HN=SiH-Bu-n

IC ICM G03C001-73  
ICS G03F007-039; G03F007-20; G03F007-30; G03F007-40  
INCL 430270100; 430286100; 430287100; 430326000; 430330000; 430905000;  
430914000; 430919000; 430926000  
CC 74-5 (Radiation Chemistry, **Photochemistry**, and  
**Photographic** and Other Reprographic Processes)  
Section cross-reference(s): 76  
ST **photosensitive** polysilazane compn **photoresist**  
patterned film acid generator  
IT **Photoresists**  
(**photosensitive** polysilazane composition and method of  
forming patterned polysilazane film)  
IT Polysiloxanes, uses  
(silazane-, di-Ph; **photosensitive** polysilazane composition  
and method of forming patterned polysilazane film)  
IT Silazanes  
(siloxane-, di-Ph; **photosensitive** polysilazane composition  
and method of forming patterned polysilazane film)  
IT 3386-65-0, Palladium propionate  
(oxidation catalyst; **photosensitive** polysilazane composition  
and method of forming patterned polysilazane film)  
IT 614-45-9, tert-Butyl peroxybenzoate  
(photoacid generator; **photosensitive** polysilazane  
composition and method of forming patterned polysilazane film)  
IT 1143-72-2D, 2,3,4-Trihydroxybenzophenone, mono- and di- and tri-  
esters 20546-03-6 25155-25-3,  $\alpha,\alpha'$ -Bis(tert-  
butylperoxy)diisopropylbenzene 77473-08-6, 3,3',4,4'-Tetra(tert-  
butylperoxycarbonyl)benzophenone 218954-15-5,  
Polymethylsilazane 683764-82-1, Poly(phenylsilazane)  
683764-84-3, Poly(butylsilazane)  
(**photosensitive** polysilazane composition and method of  
forming patterned polysilazane film)  
IT 90164-34-4 683764-85-4  
(sensitizing dye; **photosensitive** polysilazane composition  
and method of forming patterned polysilazane film)

L21 ANSWER 3 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 2003:393263 HCAPLUS  
DOCUMENT NUMBER: 139:109663  
TITLE: Low-k dielectric film patterning by X-ray  
lithography  
AUTHOR(S): Kuroki, Shin-Ichiro; Kikkawa, Takamaro;  
Kochiya, Hiroyuki; Shishiguchi, Seiichi  
CORPORATE SOURCE: Research Center for Nanodevices and Systems,  
Hiroshima University, Higashi-Hiroshima,  
739-8527, Japan  
SOURCE: Japanese Journal of Applied Physics, Part 1:  
Regular Papers, Short Notes & Review Papers

(2003), 42(4B), 1907-1910  
CODEN: JAPNDE  
PUBLISHER: Japan Society of Applied Physics  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
AB Characteristics of **photosensitive** low-k polymethylsilazane were studied using x-ray lithog. Measured pattern sizes increase with increasing x-ray exposure dose. Also the depth of the patterns increases with both increasing x-ray dose and pattern size. As the result, the aspect ratio of the developed patterns was .apprx.1.7.  
IT 218954-15-5, Polymethylsilazane (photosensitized polymethylsilazane dielec. film patterning by x-ray lithog.)  
RN 218954-15-5 HCAPLUS  
CN Silanimine, 1-methyl-, homopolymer (9CI) (CA INDEX NAME)  
  
CM 1  
  
CRN 121221-22-5  
CMF C H5 N Si

$\text{H}_3\text{C}-\text{SiH}=\text{NH}$

CC 76-10 (Electric Phenomena)  
Section cross-reference(s): 35, 38, 74  
ST x ray lithog **photosensitized** polymethylsilazane dielec film  
IT Dielectric films  
Hydrolysis  
X-ray lithography  
(photosensitized polymethylsilazane dielec. film patterning by x-ray lithog.)  
IT 75-59-2, Tetramethylammonium hydroxide  
(developer; **photosensitized** polymethylsilazane dielec. film patterning by x-ray lithog.)  
IT 218954-15-5, Polymethylsilazane  
(photosensitized polymethylsilazane dielec. film patterning by x-ray lithog.)  
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 4 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 2002:172588 HCAPLUS  
DOCUMENT NUMBER: 136:348206  
TITLE: A new positive-type **photosensitive** alkaline-developable alicyclic polyimide based on polyamic acid silyl ester as a polyimide precursor and diazonaphthoquinone as a **photosensitive** compound  
AUTHOR(S): Watanabe, Yasufumi; Shibasaki, Yuji; Ando, Shinji; Ueda, Mitsuru  
CORPORATE SOURCE: Department of Organic & Polymeric Materials, Tokyo Institute of Technology, Meguro-ku, Tokyo, 152-8552, Japan  
SOURCE: Chemistry of Materials (2002), 14(4), 1762-1766

PUBLISHER: CODEN: CMATEX; ISSN: 0897-4756  
 DOCUMENT TYPE: American Chemical Society  
 LANGUAGE: Journal  
 English

AB A new pos. working **photosensitive** alicyclic polyimide precursor based on polyamic acid tert-butyldimethylsilylester and 2,3,4-tris[2-diazo-1-(2H)-naphthalenone-4-sulfonyloxy]benzophenone (D4SB) as a **photosensitive** compound was developed. The polymer was prepared by ring-opening polyaddn. of bicyclo[2.2.1]heptane-2-methanecarboxylic-3,5,6-tricarboxylic-2,3:5,6-dianhydride with 5-tert-butyldimethylsilylamino-N-tert-butyldimethylsilyl-1,3,3-trimethylcyclohexanemethylamine in toluene/N,N-dimethyl acetamide (DMAc) (2/1 weight ratio) at 20° for 3 h. The film of the polymer showed excellent transparency at the wavelengths >250 nm. The dissoln. behavior of polymer 3 containing 30% D4SB after exposure was studied, and the difference of dissoln. rate between the exposed and unexposed areas was enough to obtain a high contrast due to the photochem. reaction of D4SB in the polymer film. The **photosensitive** polyimide precursor containing 30% D4SB showed a sensitivity of 60 mJ/cm<sup>2</sup> and a contrast of 1.7 when it was exposed to 365-nm light and developed with a 2.38% aqueous Me<sub>4</sub>NOH solution at 25°. A fine pos. image of 10-μm-line and space patterns was also printed in a film which was exposed to 300 mJ/cm<sup>2</sup> by contact mode. The pos. image in polymer was converted to the pos. image in the polyimide (PI) film by thermal treatment. The optically estimated dielec. consts. of the polyimides with and without D4SB are 2.45 and 2.44, resp. These values are significantly lower than those of conventional aromatic polyimides.

IT 418761-35-0

(new pos.-type alkaline-developable alicyclic polyimide containing polyamic acid silyl ester as polyimide precursor and **photosensitive** diazonaphthoquinone)

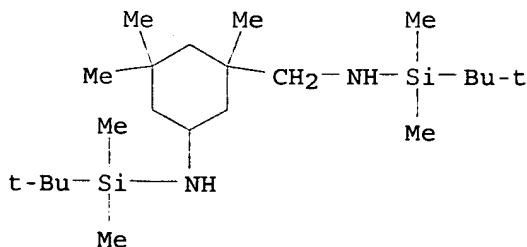
RN 418761-35-0 HCAPLUS

CN 4,8-Methano-1H,3H-benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, hexahydro-, polymer with 1-(1,1-dimethylethyl)-N-[5-[[[(1,1-dimethylethyl)dimethylsilyl]amino]methyl]-3,3,5-trimethylcyclohexyl]-1,1-dimethylsilanamine (9CI) (CA INDEX NAME)

CM 1

CRN 410090-46-9

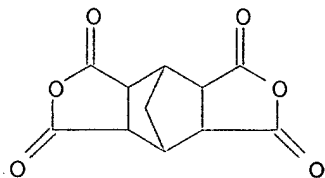
CMF C22 H50 N2 Si2



CM 2

CRN 114291-20-2

CMF C11 H8 O6



CC 74-10 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)

ST pos **photosensitive** alkali developable alicyclic polyimide polyamide silyl ester; polyamic acid silyl ester polyimide precursor diazonaphthoquinone **photosensitive**

IT Dielectric constant  
Dissolution  
Dissolution  
Photolysis  
Positive **photoresists**  
Ring opening  
(new pos.-type alkaline-developable alicyclic polyimide containing polyamic acid silyl ester as polyimide precursor and **photosensitive** diazonaphthoquinone)

IT Polyimides, uses  
(new pos.-type alkaline-developable alicyclic polyimide containing polyamic acid silyl ester as polyimide precursor and **photosensitive** diazonaphthoquinone)

IT 124709-21-3P  
(new pos.-type alkaline-developable alicyclic polyimide containing polyamic acid silyl ester as polyimide precursor and **photosensitive** diazonaphthoquinone)

IT 84522-08-7 410090-46-9 **418761-35-0**  
(new pos.-type alkaline-developable alicyclic polyimide containing polyamic acid silyl ester as polyimide precursor and **photosensitive** diazonaphthoquinone)

IT 75-50-3, reactions 127-19-5 2855-13-2 18162-48-6  
20680-48-2 114291-20-2  
(new pos.-type alkaline-developable alicyclic polyimide containing polyamic acid silyl ester as polyimide precursor and **photosensitive** diazonaphthoquinone)

REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 5 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:87278 HCAPLUS

DOCUMENT NUMBER: 136:142618

TITLE: Polymer-containing masking bilayer for extreme ultraviolet photolithographic etching of semiconductor substrates and extreme ultraviolet photolithographic method

INVENTOR(S): Schiltz, Andre

PATENT ASSIGNEE(S): France Telecom, Fr.

SOURCE: Eur. Pat. Appl., 11 pp.  
CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: French

FAMILY ACC. NUM. COUNT: 1

## PATENT INFORMATION:

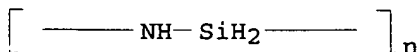
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1176468	A1	20020130	EP 2001-401972	2001 0723
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
FR 2812450	A1	20020201	FR 2000-9759	2000 0726
FR 2812450	B1	20030110		
US 2002072014	A1	20020613	US 2001-912057	2001 0725
US 6653054	B2	20031125		
PRIORITY APPLN. INFO.:			FR 2000-9759	A 2000 0726

AB A masking layer for etching a semiconductor substrate is provided where the pattern to be etched is transferable to the masking layer by photolithog. at extreme UV (EUV) wavelengths of 10-100 nm and the layer is resistant to plasma etching. This layer consists of a bilayer structure comprising an upper layer that is sensitive to EUV wavelengths of 10-100 nm and resistant to deep UV (DUV) wavelengths of 100-300 nm and/or UV wavelengths of 300-700 nm and a lower layer resistant to EUV and sensitive to DUV and UV. The upper layer is preferably a nitrocellulose resin and/or polyphthalaldehyde and the lower layer is preferably an organosilicon compound, especially a polysiloxane or polysilazane. The photolithog. process using this masking system and the use of a photoablation layer sensitive to EUV and resistant to DUV and UV coupled with a polymeric layer resistant to EUV and plasma etching and sensitive to DUV and UV to fabricate a masking bilayer for semiconductor etching are also claimed. The method allows creation of patterns with dimensions of <0.1 $\mu$ . The use of the bilayer structure requires an EUV photolithog. step and a DUV isolation step but on a single development step, as usual in liquid phase or in dry phase by plasma.

IT 149013-47-8, Perhydropolysilazane  
(lower layer containing; polymer-containing masking bilayer for extreme UV photolithog. for semiconductor etching)

RN 149013-47-8 HCAPLUS

CN Poly[(imino)(silylene)] (9CI) (CA INDEX NAME)



IC ICM G03F007-095  
ICS G03F007-075

CC 74-5 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)  
Section cross-reference(s): 76

IT Photoresists  
(UV; polymer-containing masking bilayer for extreme UV photolithog.)

for semiconductor etching)  
 IT 7803-62-5D, Silane, Me derivs. 149013-47-8,  
 Perhydropolysilazane  
 (lower layer containing; polymer-containing masking bilayer for extreme  
 UV photolithog. for semiconductor etching)  
 REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE  
 FOR THIS RECORD. ALL CITATIONS AVAILABLE  
 IN THE RE FORMAT

L21 ANSWER 6 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2001:276729 HCAPLUS  
 DOCUMENT NUMBER: 135:99720  
 TITLE: Direct patterning of **photosensitive**  
 low-dielectric-constant films using  
 electron-beam lithography  
 AUTHOR(S): Kikkawa, Takamaro; Nagahara, Tatsuro; Matsuo,  
 Hideki  
 CORPORATE SOURCE: Research Center for Nanodevices and Systems,  
 Hiroshima University, Higashi-Hiroshima,  
 739-8527, Japan  
 SOURCE: Applied Physics Letters (2001), 78(17),  
 2557-2559  
 CODEN: APPLAB; ISSN: 0003-6951  
 PUBLISHER: American Institute of Physics  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB A direct patterning technique of interlayer dielec. films was  
 developed for multilevel interconnections. A  
**photosensitive** methylsilazane film with a dielec. constant  
 of 2.7 was synthesized. A methylsilazane precursor consists of a  
 photoacid generator, a sensitizer, and a base polymer. The  
**photosensitive** methylsilazane film could be patterned by  
 use of electron-beam lithog. or UV lithog. It was demonstrated  
 that the smallest feature size of 50 nm for damascene lines and  
 via holes could be directly patterned in these films by  
 electron-beam lithog.

IT 218954-15-5, Poly(methylsilazane)  
 (direct patterning of low-dielec.-constant methylsilazane films  
 for multilevel interconnections using electron-beam or UV  
 lithog.)  
 RN 218954-15-5 HCAPLUS  
 CN Silanimine, 1-methyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 121221-22-5  
 CMF C H5 N Si

H<sub>3</sub>C-SiH=NH

CC 74-5 (Radiation Chemistry, **Photochemistry**, and  
**Photographic** and Other Reprographic Processes)  
 Section cross-reference(s): 76  
 ST **photosensitive** low dielec const film patterning electron  
 beam lithog; methylsilazane **photoresist** patterning  
 electron beam lithog  
 IT Electron beam lithography  
 Interconnections (electric)

**Photoresists**

(direct patterning of low-dielec.-constant methylsilazane films for multilevel interconnections using electron-beam or UV lithog.)

IT 218954-15-5, Poly(methylsilazane)

(direct patterning of low-dielec.-constant methylsilazane films for multilevel interconnections using electron-beam or UV lithog.)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 7 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:241669 HCAPLUS

DOCUMENT NUMBER: 132:286325

TITLE: **Photosensitive** polysilazane composition and method of forming patterned layer using same

INVENTOR(S): Nagahara, Tatsuro; Matsuo, Hideki; Aoki, Tomoko; Yamada, Kazuhiro

PATENT ASSIGNEE(S): Tonen Corporation, Japan

SOURCE: PCT Int. Appl., 45 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000020927	A1	20000413	WO 1999-JP5498	1999 1005
W: KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
JP 2000181069	A2	20000630	JP 1999-283106	1999 1004
TW 495494	B	20020721	TW 1999-88117059	1999 1004
EP 1164435	A1	20011219	EP 1999-970175	1999 1005
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
US 2004081912	A1	20040429	US 2003-728801	2003 1208
PRIORITY APPLN. INFO.:			JP 1998-282697	A 1998 1005
			WO 1999-JP5498	W 1999 1005
			US 2001-806852	B2

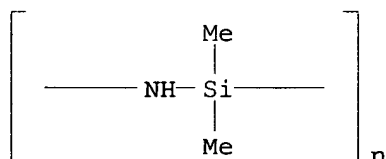
2001  
0618

AB The **photosensitive** polysilazane composition has a polysilazane and a light-sensitive acid-generating agent. The composition provides the patterned pos.-working polysilazane layer directly used as a **photoresist**.

IT 32169-90-7, Poly[imino(dimethylsilylene)]  
153340-09-1, Poly[imino(diphenylsilylene)]  
(**photosensitive** polysilazane composition)

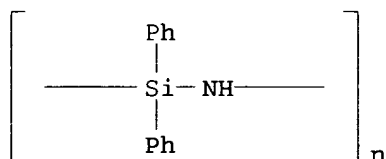
RN 32169-90-7 HCAPLUS

CN Poly[imino(dimethylsilylene)] (8CI, 9CI) (CA INDEX NAME)



RN 153340-09-1 HCAPLUS

CN Poly[imino(diphenylsilylene)] (9CI) (CA INDEX NAME)



IC ICM G03F007-075  
ICS G03F007-004; H01L021-027; C08L083-16

CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)

ST **photosensitive** polysilazane compn pattern forming method  
**photoresist**

IT **Photoresists**  
(**photosensitive** polysilazane composition and method of forming patterned polysilazane film)

IT 614-45-9, tert-Butylperoxybenzoate 25155-25-3,  
 $\alpha,\alpha'$ -Bis(tert-butylperoxy)diisopropylbenzene  
32169-90-7, Poly[imino(dimethylsilylene)] 68510-93-0  
77473-08-6, 3,3',4,4'-Tetra(tert-butylperoxycarbonyl)benzophenone  
153340-09-1, Poly[imino(diphenylsilylene)]  
(**photosensitive** polysilazane composition)

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L21 ANSWER 8 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:587968 HCAPLUS

DOCUMENT NUMBER: 131:221197

TITLE: Electrophotographic photoreceptor with surface protective layer made of Si compound

INVENTOR(S): Tokutake, Shigeaki; Yamaguchi, Sadako

PATENT ASSIGNEE(S): Minolta Camera Co., Ltd., Peop. Rep. China;

SOURCE: Konica Minolta Business Technologies, Inc.  
 Jpn. Kokai Tokkyo Koho, 9 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11249330	A2	19990917	JP 1998-54901	1998 0306
JP 3665829	B2	20050629	JP 1998-54901	1998 0306

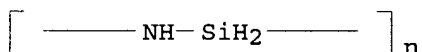
PRIORITY APPLN. INFO.: JP 1998-54901

AB The title photoreceptor comprises an Al or its alloy conductive support coated with a **photosensitive** layer and a surface protective layer formed by coating a solution containing an organopolysilazane (R<sub>1</sub>R<sub>2</sub>SiNR<sub>3</sub>)<sub>n</sub> (R<sub>1</sub>-3 = H, C<sub>1</sub>-3 alkyl; n = 10-60) on the **photosensitive** layer followed by curing. The protective layer may be made of a compound (SiO<sub>2</sub>)<sub>x</sub>(R<sub>1</sub>R<sub>2</sub>SiNR<sub>3</sub>)<sub>y</sub> (R<sub>1</sub>-3 = H, C<sub>1</sub>-3 alkyl; y/x < 0.1). The photoreceptor shows improved anti-cracking properties and high electrostatic properties even after exposure to ozone, and the protective layer exhibits high adhesion to the **photosensitive** layer.

IT 149013-47-8, Poly[(imino)(silylene)]  
 (electrophotog. photoreceptor with surface protective layer containing polysilazane)

RN 149013-47-8 HCAPLUS

CN Poly[(imino)(silylene)] (9CI) (CA INDEX NAME)



IC ICM G03G005-147

ICS G03G005-147

CC 74-3 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)

IT 149013-47-8, Poly[(imino)(silylene)]  
 (electrophotog. photoreceptor with surface protective layer containing polysilazane)

L21 ANSWER 9 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:407182 HCAPLUS

DOCUMENT NUMBER: 131:94856

TITLE: Crosslinked polycarbonate, its manufacture, and electrophotographic photoreceptor containing it as binder

INVENTOR(S): Hikosaka, Takaaki

PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 97 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11172003	A2	19990629	JP 1997-343057	1997 1212

PRIORITY APPLN. INFO.: JP 1997-343057  
1997  
1212

AB The crosslinked polycarbonate is manufactured by hydrosilylation of polycarbonates having a C:C linkage with Si compds. having  $\geq 2$  Si-H linkages in the presence of transition metal catalysts, Cl-containing catalysts, and/or radicals. The crosslinked polycarbonate obtained by the above method is also claimed. The electrophotog. photoreceptor contains the above polycarbonate in a **photosensitive** layer. The photoreceptor shows improved abrasion resistance and durability in repeated use.

IT **229621-69-6P**  
(manufacture of silyl-crosslinked polycarbonate for binder of electrophotog. photoreceptor with improved abrasion resistance)

RN 229621-69-6 HCAPLUS

CN Carbonic dichloride, polymer with N-(dimethylsilyl)-1,1-dimethylsilanamine, 4,4'-(1-methylethylidene)bis[phenol] and 4,4'-(1-methylethylidene)bis[2-(2-propenyl)phenol] (9CI) (CA INDEX NAME)

CM 1

CRN 15933-59-2

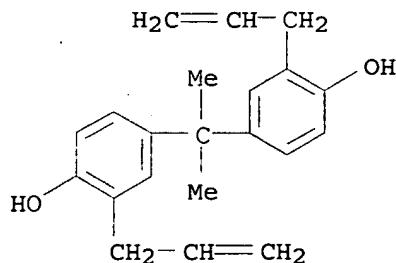
CMF C4 H15 N Si2

$\text{Me}_2\text{SiH}-\text{NH}-\text{SiHMe}_2$

CM 2

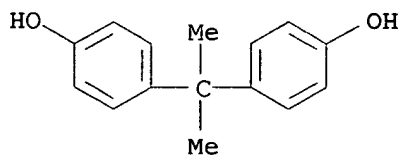
CRN 1745-89-7

CMF C21 H24 O2



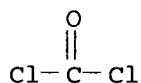
CM 3

CRN 80-05-7  
CMF C15 H16 O2



CM 4

CRN 75-44-5  
CMF C Cl2 O



IC ICM C08G077-448  
ICS C08G064-42; C08G077-60; G03G005-05; C08G064-04  
CC 74-3 (Radiation Chemistry, **Photochemistry**, and  
**Photographic** and Other Reprographic Processes)  
Section cross-reference(s): 38  
IT 75-44-5DP, Phosgene, polymers with hydroxyphenylpropyl- or  
dimethylhydroxysilyl-terminated dimethylsilanediol-  
allylmethylsilanediol copolymer and dihydroxybiphenyl and  
bis(dimethylsilyl)benzene 80-05-7DP, 2,2-Bis(4-  
hydroxyphenyl)propane, polymer with trimethylsilyl-terminated  
diphenylsilanediol-methylsilanediol copolymer,  
bis(allylhydroxyphenyl)propane, and phosgene 92-88-6DP,  
4,4'-Dihydroxybiphenyl, polymers with hydroxyphenylpropyl- or  
dimethylhydroxysilyl-terminated dimethylsilanediol-  
allylmethylsilanediol copolymer and phosgene and  
bis(dimethylsilyl)benzene 2488-01-9DP, 1,4-  
Bis(dimethylsilyl)benzene, polymers with hydroxyphenylpropyl- or  
dimethylhydroxysilyl-terminated dimethylsilanediol-  
allylmethylsilanediol copolymer and phosgene and dihydroxybiphenyl  
24038-68-4DP, 2,2-Bis(3-phenyl-4-hydroxyphenyl)propane, polymers  
with hydroxyphenylpropyl- or dimethylhydroxysilyl-terminated  
dimethylsilanediol-allylmethylsilanediol copolymer and phosgene  
and bis(dimethylsilyl)benzene 31900-57-9DP, Trimethylsilyl and  
dimethylhydroxyphenylpropylsiloxymethylsilyl terminated  
155665-02-4DP, hydroxyphenylpropyl-terminated, polymers with  
dihydroxybiphenyl and phosgene and dimethylsilylbenzene  
155904-19-1DP, Diphenylsilanediol-methylsilanediol copolymer,  
trimethylsilyl-terminated, polymer with  
bis(allylhydroxyphenyl)propane, bis(hydroxyphenyl)propane, and  
phosgene 229621-54-9P 229621-55-0P 229621-56-1P  
229621-57-2P 229621-58-3P 229621-59-4P 229621-60-7P  
229621-62-9P 229621-64-1P 229621-65-2P 229621-66-3P  
229621-67-4P 229621-68-5P 229621-69-6P 229621-71-0P  
(manufacture of silyl-crosslinked polycarbonate for binder of  
electrophotog. photoreceptor with improved abrasion resistance)

L21 ANSWER 10 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:271577 HCAPLUS  
 DOCUMENT NUMBER: 130:289209  
 TITLE: Polyimide composition for positive  
 photoresist  
 INVENTOR(S): Itatani, Hiroshi; Matsumoto, Shunichi  
 PATENT ASSIGNEE(S): PI R & D Co., Ltd., Japan  
 SOURCE: PCT Int. Appl., 112 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9919771	A1	19990422	WO 1998-JP4577	1998 1012
W: CN, JP, KR, US RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 1024407	A1	20000802	EP 1998-947813	1998 1012
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
US 6627377	B1	20030930	US 2000-529382	2000 0626
PRIORITY APPLN. INFO.:				
			JP 1997-315781	A 1997 1013
			JP 1997-320266	A 1997 1016
			JP 1997-353987	A 1997 1117
			JP 1997-353988	A 1997 1117
			JP 1997-363044	A 1997 1125
			JP 1997-363045	A 1997 1125
			JP 1997-363378	A 1997 1126
			JP 1997-365491	A 1997

1202

JP 1997-370187 A  
1997  
1222

JP 1998-31933 A  
1998  
0105

JP 1998-108410 A  
1998  
0316

JP 1997-352987 A  
1997  
1117

WO 1998-JP4577 W  
1998  
1012

AB A **photosensitive** polyimide composition is soluble in organic solvents, excellent in adhesiveness, heat resistance, mech. characteristics and flexibility, and is capable of exhibiting alkali-soluble, highly sensitive pos. **photoresist** characteristics upon irradiation with light. The composition comprises a photo-acid generator and a solvent soluble polyimide exhibiting pos. **photosensitivity** in the presence of the generator.

IT **222844-73-7P**, 3,3',4,4'-Biphenyltetracarboxylic dianhydride; diaminosilane;  $\gamma$ -valerolactone; 3,4,3',4'-benzophenonetetracarboxylic dianhydride; 3,3'-dihydroxy-4,4'-diaminobiphenyl; 3,4'-diaminodiphenyl ether block copolymer  
(polyimide composition for pos. **photoresist**)

RN 222844-73-7 HCAPLUS

CN [5,5'-Biisobenzofuran]-1,1',3,3'-tetrone, polymer with 3-(4-aminophenoxy)benzenamine, 5,5'-carbonylbis[1,3-isobenzofurandione], 4,4'-diamino[1,1'-biphenyl]-3,3'-diol, dihydro-5-methyl-2(3H)-furanone and silanediamine, block (9CI)  
(CA INDEX NAME)

CM 1

CRN 14044-99-6

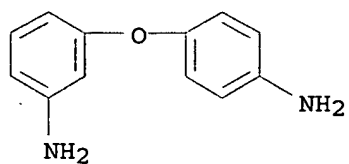
CMF H6 N2 Si

H<sub>2</sub>N-SiH<sub>2</sub>-NH<sub>2</sub>

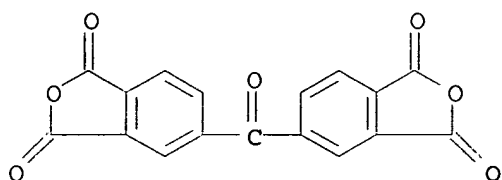
CM 2

CRN 2657-87-6

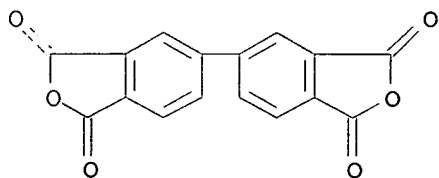
CMF C12 H12 N2 O



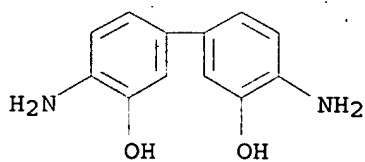
CM 3

CRN 2421-28-5  
CMF C17 H6 O7

CM 4

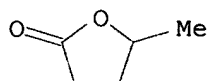
CRN 2420-87-3  
CMF C16 H6 O6

CM 5

CRN 2373-98-0  
CMF C12 H12 N2 O2

CM 6

CRN 108-29-2  
CMF C5 H8 O2



IC ICM G03F007-039  
ICS G03F007-022; G03F007-004; C08L079-08; C09D179-08; C08G073-10;  
H05K003-28; H05K003-46; H01L021-027

CC 74-5 (Radiation Chemistry, **Photochemistry**, and  
**Photographic** and Other Reprographic Processes)  
Section cross-reference(s): 35

ST polyimide compn pos **photoresist**

IT **Positive photoresists**  
(polyimide composition for pos. **photoresist**)

IT Polyimides, uses  
(polyimide composition for pos. **photoresist**)

IT 15499-84-0P  
(polyimide composition for pos. **photoresist**)

IT 80180-96-7P, 3,3',4,4'-Benzophenonetetracarboxylic  
dianhydride-2,4-diaminotoluene-3,3'-dimethoxy-4,4'-diaminobiphenyl  
copolymer 87182-96-5P, 2,2-Bis[4-(4-  
aminophenoxy)phenyl]hexafluoropropane-4,4'-[2,2,2-trifluoro-1-  
(trifluoromethyl)ethylidene]bis(1,2-benzenedicarboxylic acid  
dianhydride) copolymer 134096-63-2P 144279-09-4P  
162735-41-3P 177190-29-3P 177190-34-0P 186967-17-9P  
222842-97-9P, 3,4,3',4'-Biphenyltetracarboxylic acid  
dianhydride-2,2-bis[4-(4-aminophenoxy)phenyl]propane-2,3-  
diaminodiphenyl ether copolymer 222843-01-8P 222843-06-3P,  
3,4,3',4'-Biphenyltetracarboxylic acid dianhydride-3,4,3',4'-  
benzophenonetetracarboxylic acid dianhydride-2,4-diaminotoluene-  
diaminosiloxane-3,4-diaminodiphenyl ether-2,2-bis[4-(4-  
aminophenoxy)phenyl]hexafluoropropane block copolymer  
222843-27-8P, m-BAPS-3,4,3',4'-benzophenonetetracarboxylic acid  
dianhydride-9,9-bis(4-aminophenyl)fluorene-3,4,3',4'-  
Biphenyltetracarboxylic acid dianhydride-3,5-diaminobenzoic acid  
block copolymer 222843-32-5P 222843-36-9P,  
3,4,3',4'-Benzophenonetetracarboxylic Acid Dianhydride-4,4'-  
diaminodiphenylsulfide-3,4,3',4'-biphenyl tetracarboxylic Acid  
Dianhydride-3,3'-dihydroxybenzidine-m-BAPS block copolymer  
222843-50-7P 222843-56-3P 222843-63-2P 222843-70-1P  
222843-77-8P 222843-82-5P 222843-88-1P 222843-94-9P  
222843-98-3P 222844-05-5P 222844-10-2P 222844-17-9P  
222844-25-9P 222844-32-8P 222844-44-2P 222844-51-1P  
222844-59-9P 222844-67-9P **222844-73-7P**,  
3,3',4,4'-Biphenyltetracarboxylic dianhydride; diaminosilane;  
 $\gamma$ -valerolactone; 3,4,3',4'-benzophenonetetracarboxylic  
dianhydride; 3,3'-dihydroxy-4,4'-diaminobiphenyl;  
3,4'-diaminodiphenyl ether block copolymer 222844-82-8P  
222844-87-3P 222844-93-1P 222844-96-4P 222845-03-6P  
222845-07-0P, 3,3',4,4'-Benzophenonetetracarboxylic acid  
dianhydride-3,3'-dinitro-4,4'-diaminodiphenyl-bis[4-(3-  
Aminophenyl)phenyl]sulfone copolymer 222845-11-6P 222845-17-2P  
222845-23-0P 222845-26-3P 222845-32-1P 222845-38-7P,  
3,3',4,4'-Biphenyltetracarboxylic acid anhydride-1,5-  
diaminoanthraquinone-2,2-bis[4-(3-aminophenoxy)phenyl]propane  
copolymer 222845-43-4P 222845-53-6P 222845-58-1P  
222845-63-8P 222845-68-3P, 3,3',4,4'-Benzophenonetetracarboxylic  
acid dianhydride-1,4-bis(3-aminopropyl)piperazine-bis[4-(3-  
aminophenoxy)phenyl]sulfone copolymer 222845-73-0P

222845-77-4P 222845-83-2P 222845-89-8P 222845-95-6P  
 222846-01-7P 222846-08-4P 222846-13-1P 222846-18-6P  
 222846-23-3P, 3,3',4,4'-Biphenyltetracarboxylic acid  
 dianhydride-bis-4-(3-aminophenoxy)phenylsulfone-2,2-bis-[4-(3-  
 aminophenoxy)phenyl]hexafluoropropane copolymer 222846-30-2P  
 222846-54-0P 222846-63-1P 222846-79-9P 222846-83-5P  
 222846-88-0P, 3,4,3',4'-Biphenyltetracarboxylic acid  
 dianhydride-2,2-ditrifluoromethylbenzidine-2,2-bis[4-(4-  
 aminophenoxy)phenyl]propane-3,5-diaminobenzoic acid block  
 copolymer 222846-93-7P

(polyimide composition for pos. photoresist)

IT 86-73-7, Fluorene

(polyimide composition for pos. photoresist)

IT 83803-86-5 222843-16-5, m-BAPS-3,3'-dimethylbenzidine-4,4'-  
 [2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis(1,2-  
 benzenedicarboxylic acid dianhydride) copolymer 222843-21-2,  
 m-BAPS-bicyclo(2,2,2)-octa-7-ene-2,3,5,6-tetracarboxylic acid  
 dianhydride-pyromellitic acid dianhydride copolymer 222843-41-6,  
 2,2-Bis[4-(4-aminophenoxy)phenyl]propane-3,4,3',4'-  
 Biphenyltetracarboxylic dianhydride-3,5-diaminobenzoic  
 acid-pyromellitic acid dianhydride-2,2'-bis(trifluoromethyl)  
 benzidine block copolymer

(polyimide composition for pos. photoresist)

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE  
 FOR THIS RECORD. ALL CITATIONS AVAILABLE  
 IN THE RE FORMAT

L21 ANSWER 11 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:157146 HCAPLUS

DOCUMENT NUMBER: 130:259507

TITLE: Electrophotographic photoreceptor, its  
 manufacture, and image-forming apparatus

INVENTOR(S): Koseki, Kazuhiro; Kamisaka, Tomozumi

PATENT ASSIGNEE(S): Fuji Xerox Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 23 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 11065155	A2	19990305	JP 1997-217537	1997 0812
JP 3562249	B2	20040908		
PRIORITY APPLN. INFO.:			JP 1997-217537	1997 0812

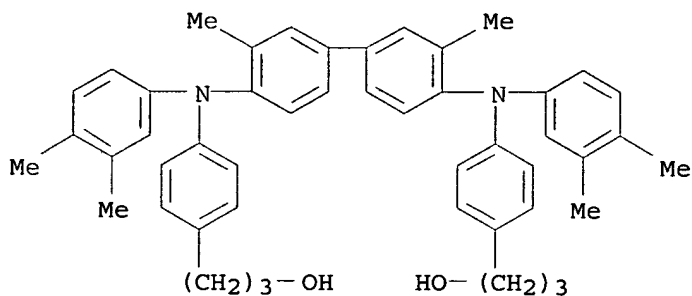
GI



CM 2

CRN 210689-85-3

CMF C48 H52 N2 O2



RN 221390-31-4 HCAPLUS

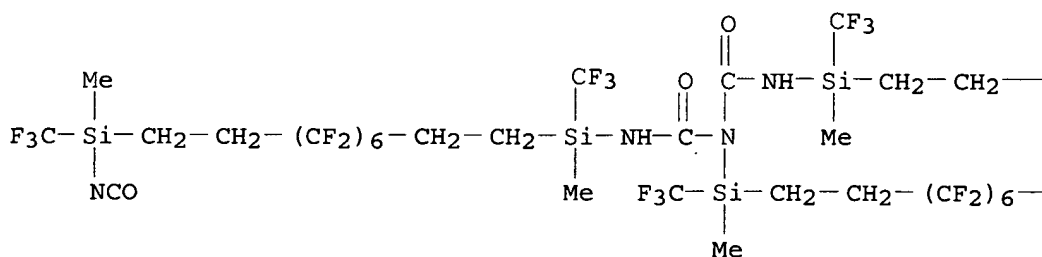
CN 2,4-Diaza-5,16-disilaheptadecanamide, N,2-  
 bis[[3,3,4,4,5,5,6,6,7,7,8,8-dodecafluoro-10-  
 [isocyanatomethyl(trifluoromethyl)silyl]decyl]methyl(trifluorometh-  
 yl)silyl]-8,8,9,9,10,10,11,11,12,12,13,13,17,17,17-pentadecafluoro-  
 16-isocyanato-5,16-dimethyl-3-oxo-5-(trifluoromethyl)-, polymer  
 with 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(phenylimino)]bis[phenol]  
 (9CI) (CA INDEX NAME)

CM 1

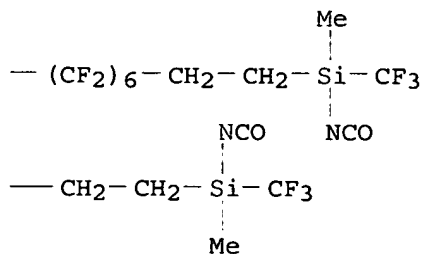
CRN 221390-30-3

CMF C47 H44 F54 N6 O5 Si6

PAGE 1-A



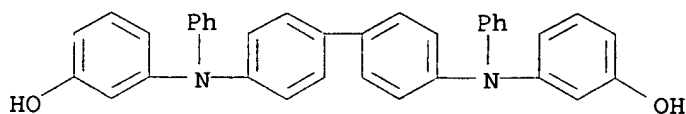
PAGE 1-B



CM 2

CRN 120358-46-5

CMF C36 H28 N2 O2



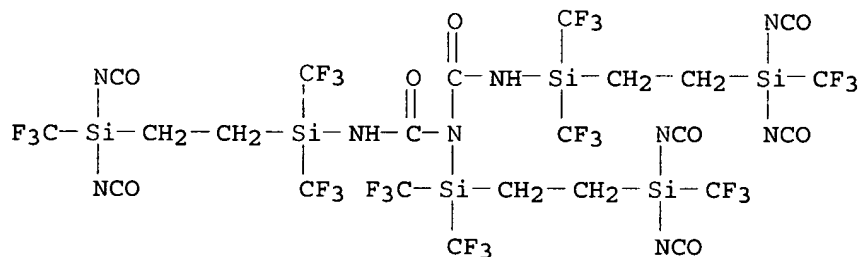
RN 221390-34-7 HCAPLUS

CN 2,4-Diaza-5,8-disilanonanamide, N,2-bis[[2-[diisocyanato(trifluoromethyl)silyl]ethyl]bis(trifluoromethyl)silyl]-9,9,9-trifluoro-8,8-diisocyanato-3-oxo-5,5-bis(trifluoromethyl)-, polymer with 4,4'-[(3,3'-dimethyl[1,1'-biphenyl]-4,4'-diyl)bis[(3,4-dimethylphenyl)imino]]bis[benzenepropanol] (9CI)  
(CA INDEX NAME)

CM 1

CRN 221390-33-6

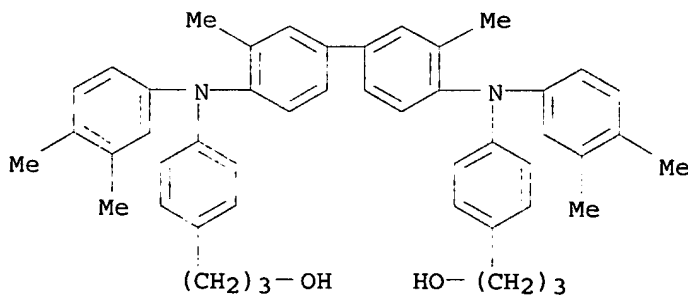
CMF C23 H14 F27 N9 O8 Si6



CM 2

CRN 210689-85-3

CMF C48 H52 N2 O2

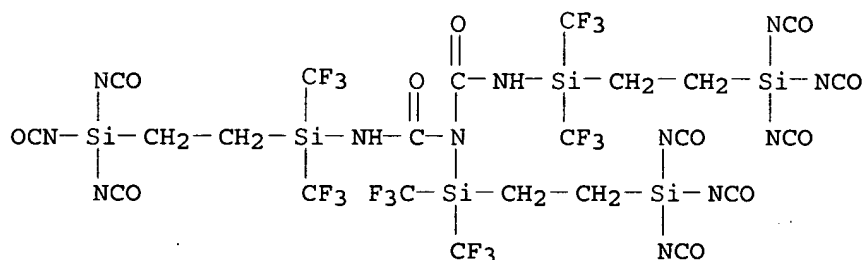


RN 221390-37-0 HCAPLUS

CN 5,7-Diaza-1,4-disilaoctan-8-amide, N,7-bis[bis(trifluoromethyl)[2-

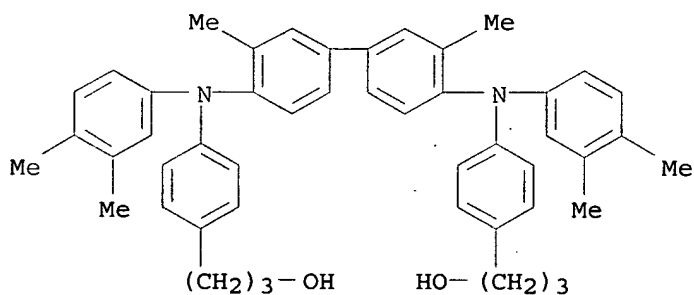
CM 1

CMF C23 H14 F18 N12 O11 Si6



CM 2

CMF C48 H52 N2 O2



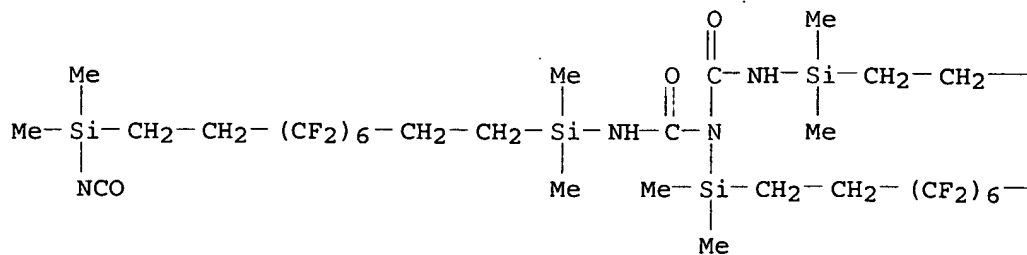
CN 2,4-Diaza-5,16-disilaheptadecanamide, N,2-

bis[[3,3,4,4,5,5,6,6,7,7,8,8-dodecafluoro-10-(isocyanatodimethylsilyl)decyl]dimethylsilyl]-8,8,9,9,10,10,11,11,12,12,13,13-dodecadecafluoro-16-isocyanato-5,5,16-trimethyl-3-oxo-, polymer with 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(phenylimino)]bis[phenol] (9CI) (CA INDEX NAME)

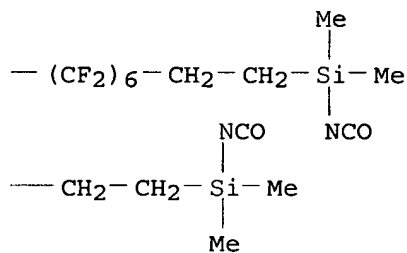
CM 1

CMF C47 H62 F36 N6 O5 Si6

PAGE 1-A



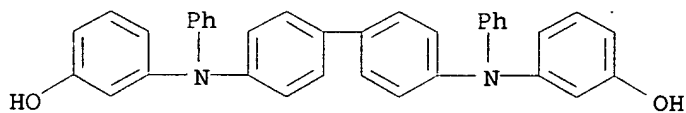
PAGE 1-B



CM 2

CRN 120358-46-5

CMF C36 H28 N2 O2



RN 221390-48-3 HCAPLUS

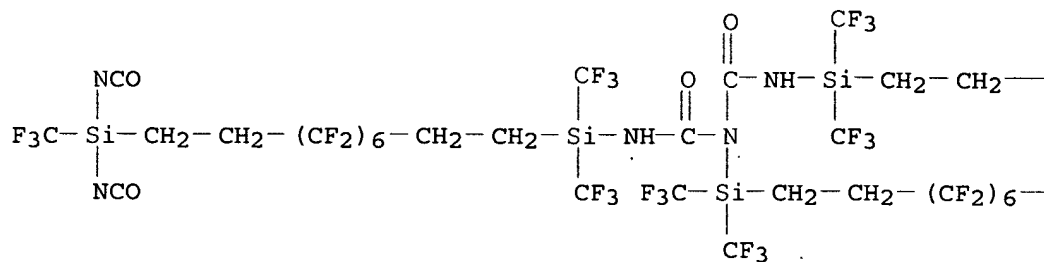
CN 2,4-Diaza-5,16-disilaheptadecanamide, N,2-bis[[10-[diisocyanato(trifluoromethyl)-3,3,4,4,5,5,6,6,7,7,8,8-dodecafluorosilyl]decyl]bis(trifluoromethyl)silyl]-8,8,9,9,10,10,11,11,12,12,13,13,17,17,17-pentadecafluoro-16,16-diisocyanato-3-oxo-5,5-bis(trifluoromethyl)-, polymer with 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(phenylimino)]bis[phenol] (9CI)  
(CA INDEX NAME)

CM 1

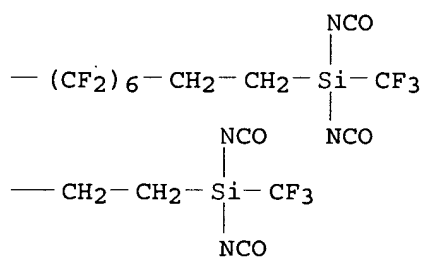
CRN 221390-47-2

CMF C47 H26 F63 N9 O8 Si6

PAGE 1-A

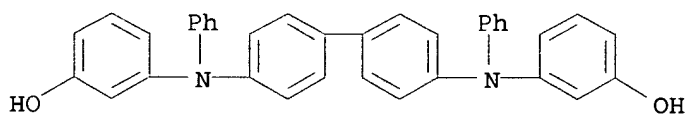


PAGE 1-B



CM 2

CRN 120358-46-5  
CMF C36 H28 N2 O2



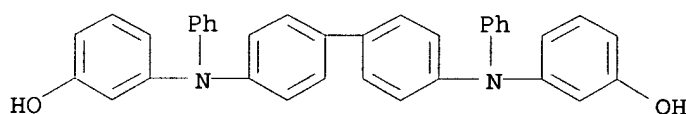
RN	221390-51-8	HCAPLUS
CN	13,15-Diaza-1,12-disilahexadecan-16-amide, N,15-bis[[3,3,4,4,5,5,6,6,7,7,8,8-dodecafluoro-10-(triisocyanatosilyl)decyl]bis(trifluoromethyl)silyl]-4,4,5,5,6,6,7,8,8,9,9-fluoro-1,1,1-triisocyanato-14-oxo-12,12-bis(trifluoromethyl)-, polymer with 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(phenylimino)]bis[phenol] (9CI) (CA INDEX NAME)	

CM 1

CRN 221390-50-7  
CMF C47 H26 F54 N12 O11 Si6

$$\begin{array}{ccccccc} \text{NCO} & & & & \text{CF}_3 & & \text{O} & & \text{CF}_3 \\ | & & & & | & & || & & | \\ \text{OCN}-\text{Si}-\text{CH}_2-\text{CH}_2-(\text{CF}_2)_6-\text{CH}_2-\text{CH}_2-\text{Si}-\text{NH}-\text{C}-\text{N}-\text{NH}-\text{Si}-\text{CH}_2-\text{CH}_2- & & & & & & & & \\ | & & & & | & & & & | \\ \text{NCO} & & & & \text{CF}_3 & & \text{F}_3\text{C}-\text{Si}-\text{CH}_2-\text{CH}_2-(\text{CF}_2)_6- & & \text{CF}_3 \\ & & & & & & | & & \\ & & & & & & \text{CF}_3 & & \end{array}$$
$$\begin{array}{c} \text{NCO} \\ | \\ \text{--- (CF}_2\text{)}_6\text{---CH}_2\text{---CH}_2\text{---Si---NCO} \\ | \\ \text{NCO} \\ \text{NCO} \\ | \\ \text{---CH}_2\text{---CH}_2\text{---Si---NCO} \\ | \\ \text{NCO} \end{array}$$

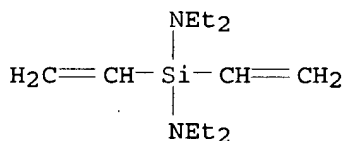
CRN 120358-46-5  
CMF C36 H28 N2 O2



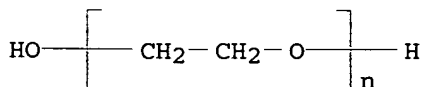
IC ICM G03G005-147  
ICS G03G005-147; G03G005-05; G03G005-06; G03G015-02  
CC 74-3 (Radiation Chemistry, **Photochemistry**, and  
**Photographic** and Other Reprographic Processes)  
Section cross-reference(s): 38  
IT 221390-25-6P 221390-28-9P 221390-31-4P  
221390-34-7P 221390-37-0P 221390-39-2P  
221390-42-7P 221390-45-0P 221390-48-3P  
221390-51-8P 221390-54-1P 221390-57-4P  
(electrophotog. photoreceptor with crosslinked polymer surface  
layer comprising hydroxy group-containing charge-transporting agent  
and isocyanate)

L21 ANSWER 12 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 1998:224415 HCAPLUS  
DOCUMENT NUMBER: 128:263822  
TITLE: Poly(siloxylethylene glycol) as a new water  
soluble electron-beam resist  
AUTHOR(S): Nagasaki, Yukio; Kato, Masao; Aoki, Hidetoshi;

Tokuda, Takashi  
 CORPORATE SOURCE: Materials Science Department, Science  
 University of Tokyo, Noda, 278, Japan  
 SOURCE: Polymer Preprints (American Chemical Society,  
 Division of Polymer Chemistry) (1998), 39(1),  
 467-468  
 CODEN: ACPPAY; ISSN: 0032-3934  
 PUBLISHER: American Chemical Society, Division of Polymer  
 Chemistry  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB Poly(divinylsiloxymethylene glycol) (PVSE) water soluble electron-beam  
 resist show very good lithog. characteristics. A 1 mm pattern was  
 obtained at a very low electron-beam exposure (2.4  $\mu\text{C}/\text{cm}^2$ )  
 which was developed by cold water, thus retaining high durability  
 against  $\text{O}_2$  reactive ion etching. PVSE also worked as a fairly  
 sensitive neg. UV **photoresist** when the polymer was  
 coupled with tetramethylolmethanetetra(3-mercaptopropionate)  
 crosslinker and benzoin Me ether sensitizer.  
 IT 181177-81-1, Bis(diethylamino)divinylsilane-poly(ethylene  
 oxide) copolymer  
 (poly(siloxymethylene glycol) new water soluble electron-beam  
 resist)  
 RN 181177-81-1 HCAPLUS  
 CN Silanediimine, 1,1-diethenyl-N,N,N',N'-tetraethyl-, polymer with  
 $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) (9CI) (CA  
 INDEX NAME)  
 CM 1  
 CRN 127410-30-4  
 CMF C12 H26 N2 Si



CM 2  
 CRN 25322-68-3  
 CMF (C2 H4 O) $_n$  H2 O  
 CCI PMS



CC 74-5 (Radiation Chemistry, **Photochemistry**, and  
**Photographic** and Other Reprographic Processes)  
 Section cross-reference(s): 37  
 ST vinylsiloxymethylene glycol polymer electron beam resist; lithog  
**photoresist** vinylsiloxymethylene glycol polymer; water  
 soluble electron resist polysiloxymethylene glycol

IT **Photoresists**  
 (poly(siloxyethylene glycol) new water soluble electron-beam resist and **photoresist**)

IT 7575-23-7  
 (crosslinking agent; poly(siloxyethylene glycol) new water soluble electron-beam resist and **photoresist**)

IT 181177-81-1, Bis(diethylamino)divinylsilane-poly(ethylene oxide) copolymer  
 (poly(siloxyethylene glycol) new water soluble electron-beam resist)

IT 3524-62-7, Benzoin methyl ether  
 (sensitizer; poly(siloxyethylene glycol) new water soluble electron-beam resist and **photoresist**)

REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 13 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:184513 HCAPLUS

DOCUMENT NUMBER: 128:263956

TITLE: Patterning of insulating film and **photosensitive** composition containing silicon polymers therefor

INVENTOR(S): Mikoshiba, Satoshi; Hayase, Shuji; Nakano, Yoshihiko; Kawada, Rikako

PATENT ASSIGNEE(S): Toshiba Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 27 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

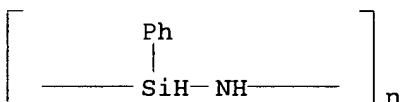
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 10079381	A2	19980324	JP 1996-233199	1996 0903
JP 3529953	B2	20040524		
US 6004730	A	19991221	US 1997-921613	1997 0902

PRIORITY APPLN. INFO.: JP 1996-233199 A 1996  
0903

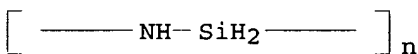
AB A pattern of an insulating film, useful for semiconductor devices, liquid crystal displays, etc., is formed by (1) coating a substrate with a **photosensitive** composition containing a polymer comprising a monomer unit (SiR<sub>1</sub>R<sub>2</sub>NR<sub>3</sub>) [I; R<sub>1</sub> - R<sub>3</sub> = H, (un)substituted alkyl, (un)substituted aryl] and a polymer comprising a monomer unit (SiR<sub>4</sub>R<sub>5</sub>) [II; R<sub>4</sub> - R<sub>5</sub> = H, (un)substituted alkyl, (un)substituted aryl], (2) selectively exposing the film to light and developing, and (3) heating the resulting film pattern. The combination of the Si-containing polymer may be (a) a polymer comprising II and polymer comprising a monomer unit (SiHR<sub>6</sub>O) [III; R<sub>6</sub> = H, (un)substituted alkyl, (un)substituted aryl, siloxane bond], (b) a polymer comprising I, a polymer comprising II, and a polymer comprising III, or (c) a polymer comprising I and a polymer

comprising II. In the patterning the film may be heated prior to development. The **photosensitive** composition is developable with alkalis, and provides an insulating film having low dielec. constant

- IT 103728-41-2, Poly[imino(phenylsilylene)]  
 149013-47-8, Poly[(imino)(silylene)]  
 (alkali-developable **photoresists** containing polysilazanes, polysilanes, and/or polysiloxanes for patterning of insulating film)  
 RN 103728-41-2 HCAPLUS  
 CN Poly[imino(phenylsilylene)] (9CI) (CA INDEX NAME)



- RN 149013-47-8 HCAPLUS  
 CN Poly[(imino)(silylene)] (9CI) (CA INDEX NAME)



- IC ICM H01L021-312  
 ICS C08L083-16; G03F007-075; H01L021-027; C08G077-62  
 CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)  
 Section cross-reference(s): 76  
 ST insulating film patterning **photosensitive** silicon polymer; polysiloxane alkali developable **photoresist** insulating film; polysilazane alkali developable **photoresist** insulating film; polysilane alkali developable **photoresist** insulating film  
 IT Dielectric films  
**Photoresists**  
 (alkali-developable **photoresists** containing polysilazanes, polysilanes, and/or polysiloxanes for patterning of insulating film)  
 IT Polysilanes  
 Polysiloxanes, uses  
 Silazanes  
 (alkali-developable **photoresists** containing polysilazanes, polysilanes, and/or polysiloxanes for patterning of insulating film)  
 IT Silsesquioxanes  
 (hydrogen; alkali-developable **photoresists** containing polysilazanes, polysilanes, and/or polysiloxanes for patterning of insulating film)  
 IT 28883-63-8, Poly(dimethylsilylene) 29386-52-5 30107-43-8  
 31324-77-3 51176-28-4, Poly(diphenylsilylene) 76188-55-1,  
 Poly(methylphenylsilylene) 95584-36-4, Poly(phenylsilylene)  
 99936-07-9 103728-41-2, Poly[imino(phenylsilylene)]  
 149013-47-8, Poly[(imino)(silylene)] 153315-81-2  
 159655-38-6  
 (alkali-developable **photoresists** containing polysilazanes, polysilanes, and/or polysiloxanes for patterning

of insulating film)

L21 ANSWER 14 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:135848 HCAPLUS

DOCUMENT NUMBER: 128:210879

TITLE: Polymer-based micromachining technology for microfluidic devices

INVENTOR(S): Mastrangelo, Carlos H.; Man, Piu F.; Webster, James R.

PATENT ASSIGNEE(S): Regents of the University of Michigan, USA; Mastrangelo, Carlos H.; Man, Piu F.; Webster, James R.

SOURCE: PCT Int. Appl., 43 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9807069	A1	19980219	WO 1997-US14054	1997 0811
W: AU, CA, JP, KR, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9740592	A1	19980306	AU 1997-40592	1997 0811
PRIORITY APPLN. INFO.:			US 1996-23393P	P 1996 0812
			US 1997-807184	A 1997 0806
			WO 1997-US14054	W 1997 0811

AB The present invention relates to polymer-based micro-electro-mech. system (MEMS) technol. suitable for the fabrication of integrated microfluidic systems, particularly medical and chemical diagnostics system, ink-jet printer head, as well as any device that requires liquid- or gas-filled cavities for operation. The integrated microfluidic systems may consist of pumps, valves, channels, reservoirs cavities, reaction chambers, mixers, heaters, fluidic interconnects, diffusers, nozzles, and other microfluidic components on top of a regular circuit substrate. This technol. is vastly superior than any alternatives available such as glass-based, polysilicon-based MEMS technol. as well as hybrid "circuit board" technol. because of its simple construction low cost, low temperature processing, and its ability to integrate any electronic circuitry easily along with the fluidic parts.

IT 27495-70-1, Poly(hexamethyldisilazane)  
(polymer-based micromachining technol. for microfluidic device fabrication using)

RN 27495-70-1 HCAPLUS  
CN Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, homopolymer (9CI)  
(CA INDEX NAME)

CM 1

CRN 999-97-3  
CMF C6 H19 N Si2

Me<sub>3</sub>Si-NH-SiMe<sub>3</sub>

IC ICM G03F007-00  
CC 74-6 (Radiation Chemistry, **Photochemistry**, and  
**Photographic** and Other Reprographic Processes)  
Section cross-reference(s): 76  
IT **Photoresists**  
(polymer-based micromachining technol. for microfluidic device  
fabrication using)  
IT 9002-84-0, Polytetrafluoroethylene 9003-07-0, Polypropylene  
9011-14-7, Pmma 9016-00-6, Polydimethylsiloxane 25722-33-2,  
Poly(p-xylylene) **27495-70-1**, Poly(hexamethyldisilazane)  
31900-57-9, Polydimethylsiloxane 124221-30-3D, Benzocyclobutene,  
polymer  
(polymer-based micromachining technol. for microfluidic device  
fabrication using)  
REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L21 ANSWER 15 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:626645 HCAPLUS

DOCUMENT NUMBER: 127:324327

TITLE: Water-soluble silicon containing polymer  
resist

AUTHOR(S): Aoki, Hidetoshi; Tokuda, Takashi; Nagasaki,  
Yukio; Kato, Masao

CORPORATE SOURCE: R & D Center, Hokushin Corporation, Yokohama,  
230, Japan

SOURCE: Journal of Polymer Science, Part A: Polymer  
Chemistry (1997), 35(14), 2827-2833  
CODEN: JPACEC; ISSN: 0887-624X

PUBLISHER: Wiley

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Poly(divinylsiloxylethylene glycol), which consists of alternating  
oligo (ethylene glycol)s (MW = 300) and divinylsiloxanes were  
prepared by a polycondensation reaction (Mn = 6500-9300, Mw/Mn =  
2.01-2.27). The obtained polymer (PVSE300) showed a lower critical  
solution temperature (LCST) at 10.5°C, meaning that the polymer was  
soluble in water below the LCST. The glass transition temperature (Tg) and  
onset temperature of degradation (Td) of the PVSE300 were -72.5 and  
+317.5°C, resp. The hydrolytic stability of the PVSE300 in  
aqueous media was also examined and it was found that PVSE300 was fairly  
stable in cold water. The lithog. characteristics of PVSE300 were  
examined against UV and electron-beam (EB) exposure and it was found  
that the PVSE300 film showed a neg. character when developed by  
cold water. The **photosensitivity** parameter, Dg50, which  
denotes the dose at half remaining film thickness after

development, against EB exposure was extremely high (1.0  $\mu\text{C}/\text{cm}^2$ ) when a probe current and an accelerating voltage was 100 pA and 20 kV, resp. A high durability for O<sub>2</sub> reactive ion etching (O<sub>2</sub> RIE) was also observed. The characteristics of PVSE300 against photoirradn. were also examined.

IT 181177-81-1P

(water-soluble silicon containing polymer resist)

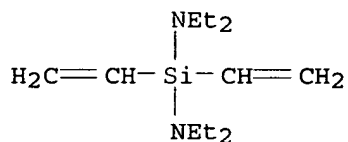
RN 181177-81-1 HCAPLUS

CN Silanediimine, 1,1-diethenyl-N,N,N',N'-tetraethyl-, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 127410-30-4

CMF C12 H26 N2 Si

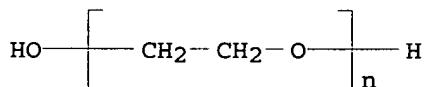


CM 2

CRN 25322-68-3

CMF (C2 H4 O)<sub>n</sub> H2 O

CCI PMS



CC 74-1 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)  
Section cross-reference(s): 35

IT Condensation reaction  
Electron beam lithography  
Electron beam resists

**Photoresists**

Polymerization

(water-soluble silicon containing polymer resist)

IT 181177-81-1P

(water-soluble silicon containing polymer resist)

REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L21 ANSWER 16 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:350400 HCAPLUS

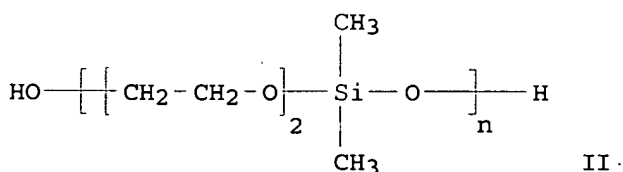
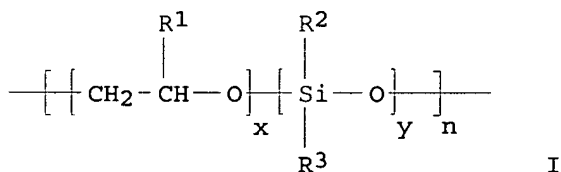
DOCUMENT NUMBER: 127:5501

TITLE: Polyoxyalkylene-polysiloxanes for  
**photoresists** having improved  
dimensional stability and their manufacture  
INVENTOR(S): Kato, Masao; Nagasaki, Yukio; Matsukura,

PATENT ASSIGNEE(S): Fumiaki; Tokuda, Takashi; Aoki, Hidetoshi  
 SOURCE: Hokushin Kogyo K. K., Japan  
 Jpn. Kokai Tokkyo Koho, 15 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
JP 09071658	A2	19970318	JP 1995-229145	1995 0906
JP 2004169041	A2	20040617	JP 2004-6076	2004 0113
JP 2004211098	A2	20040729	JP 2004-34064	2004 0210
PRIORITY APPLN. INFO.:			JP 1995-229145	A3 1995 0906
			JP 2004-6076	A3 2004 0113

GI



AB Polymers comprising alternating oligo oxyalkylene chains and oligo siloxane chains have structural repeating unit I (R1 = C1-5 alkyl, aryl, aralkyl; R2, R3 = H, OH, C1-7 alkoxy, phenoxy, C1-10 alkyl, aryl, aralkyl, halogenated alkyl, halogenated aryl, alkylcarbonyloxy, arylcarbonyloxy, CN, sulfonate group, carboxylic acid ester group, ether- or acyl-containing group; x, y = 1-10; n = 1-10,000) and are prepared by the reaction of an oligo oxyalkylene compound with an oligo siloxane compound. Thus bis(diethylamino)dimethylsilane and diethylene glycol were polymerized in THF at room temperature for 24 h to give polymer II (n = 40) having

number-average mol. weight 6500. The polymers have resistance to reactive oxygen plasma etching and improved dimensional stability.

IT 179953-12-9P 189369-40-2P 189369-41-3P  
189369-42-4P

(polyoxyalkylene-polysiloxane alternating polymers for photoresists)

RN 179953-12-9 HCAPLUS

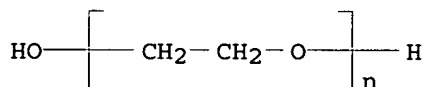
CN Silanedi-amine, N,N,N',N'-tetraethyl-1,1-dimethyl-, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 25322-68-3

CMF (C2 H4 O)<sub>n</sub> H2 O

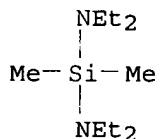
CCI PMS



CM 2

CRN 4669-59-4

CMF C10 H26 N2 Si



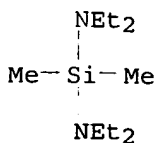
RN 189369-40-2 HCAPLUS

CN Ethanol, 2,2'-oxybis-, polymer with N,N,N',N'-tetraethyl-1,1-dimethylsilanedi-amine (9CI) (CA INDEX NAME)

CM 1

CRN 4669-59-4

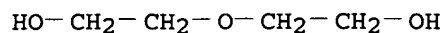
CMF C10 H26 N2 Si



CM 2

CRN 111-46-6

CMF C4 H10 O3

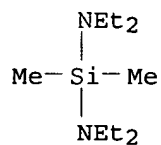


RN 189369-41-3 HCAPLUS  
 CN Ethanol, 2,2'-[1,2-ethanediylbis(oxy)]bis-, polymer with  
 N,N,N',N'-tetraethyl-1,1-dimethylsilanediamine (9CI) (CA INDEX  
 NAME)

CM 1

CRN 4669-59-4

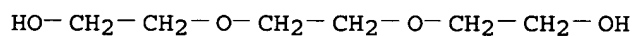
CMF C10 H26 N2 Si



CM 2

CRN 112-27-6

CMF C6 H14 O4

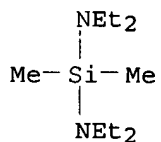


RN 189369-42-4 HCAPLUS  
 CN Ethanol, 2,2'-[oxybis(2,1-ethanediylloxy)]bis-, polymer with  
 N,N,N',N'-tetraethyl-1,1-dimethylsilanediamine (9CI) (CA INDEX  
 NAME)

CM 1

CRN 4669-59-4

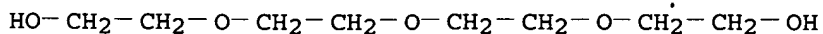
CMF C10 H26 N2 Si



CM 2

CRN 112-60-7

CMF C8 H18 O5



IC ICM C08G077-46  
 ICS C08G077-06; G03F007-038; G03F007-039; G03F007-075;  
 H01L021-027  
 CC 35-5 (Chemistry of Synthetic High Polymers)  
 Section cross-reference(s): 74  
 ST polyoxyalkylene siloxane alternating **photoresist**  
 IT Polysiloxanes, preparation  
 Polysiloxanes, preparation  
 (polyoxyalkylene-, alternating; polyoxyalkylene-polysiloxane  
 alternating polymers for **photoresists**)  
 IT **Photoresists**  
 (polyoxyalkylene-polysiloxane alternating polymers for  
**photoresists**)  
 IT Polyoxyalkylenes, preparation  
 Polyoxyalkylenes, preparation  
 (polysiloxane-, alternating; polyoxyalkylene-polysiloxane  
 alternating polymers for **photoresists**)  
 IT 189369-47-9P 189369-48-0P 189369-60-6P 189369-61-7P  
 (polyoxyalkylene-polysiloxane alternating polymers for  
**photoresists**)  
 IT 26499-73-0P 96141-31-0P 96161-61-4P 102188-13-6P  
 102244-02-0P 179953-12-9P 179953-13-0P  
**189369-40-2P 189369-41-3P 189369-42-4P**  
 189369-43-5P 189369-44-6P 189369-45-7P 189369-46-8P  
 189369-49-1P 189369-50-4P 189369-51-5P 189369-52-6P  
 189369-53-7P 189369-54-8P 189369-55-9P 189369-56-0P  
 189369-57-1P 189369-58-2P  
 (polyoxyalkylene-polysiloxane alternating polymers for  
**photoresists**)

L21 ANSWER 17 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:51116 HCAPLUS

DOCUMENT NUMBER: 126:118497

TITLE: Poly(divinylsiloxymethylene glycol). Synthesis  
 and **photoresist** characteristics

AUTHOR(S): Aoki, Hidetoshi; Tokuda, Takashi; Nagasaki,  
 Yukio; Kato, Masao

CORPORATE SOURCE: R & D Center, Hokushin Corporation, Yokohama,  
 230, Japan

SOURCE: Macromolecular Rapid Communications (1997),  
 18(1), 31-36

CODEN: MRCOE3; ISSN: 1022-1336

PUBLISHER: Huethig & Wepf

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Poly(siloxymethylene glycol) with pendent vinyl groups (PVSE) was  
 synthesized by polycondensation of oligoethylene glycol (MW = 300)  
 and (Et<sub>2</sub>N)<sub>2</sub>Si(CH<sub>2</sub>CH<sub>2</sub>)<sub>2</sub>. PVSE300 thus obtained is soluble in cold  
 water. The PVSE300 coupled with a polythiol compound shows  
 properties of a neg. working **photoresist**. A neg. tone  
 image was obtained by development with water at 4°.   
 PVSE300 is a new type of Si-containing polymer resist which can be  
 developed by water.

IT 181177-81-1P, Bis(diethylamino)divinylsilane-poly(ethylene  
 oxide) copolymer  
 (preparation and **photoresist** properties of vinyl  
 group-containing poly(siloxymethylene glycol))

RN 181177-81-1 HCAPLUS

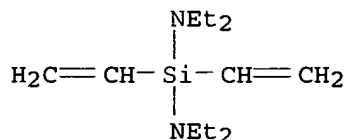
CN Silanediimine, 1,1-diethenyl-N,N,N',N'-tetraethyl-, polymer with  
 α-hydro-ω-hydroxypoly(oxy-1,2-ethanediyl) (9CI) (CA

## INDEX NAME)

CM 1

CRN 127410-30-4

CMF C12 H26 N2 Si

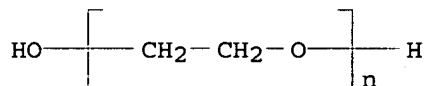


CM 2

CRN 25322-68-3

CMF (C2 H4 O)<sub>n</sub> H2 O

CCI PMS



CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 38, 74

ST polysiloxethylene glycol prepn **photoresist** crosslinker  
**photosensitizer**

IT Polysiloxanes, preparation

Polysiloxanes, preparation

(polyoxyalkylene-; preparation and **photoresist** properties  
of vinyl group-containing poly(siloxethylene glycol))

IT Polysiloxanes, preparation

(polyoxyethylene-; preparation and **photoresist** properties  
of vinyl group-containing poly(siloxethylene glycol))

IT Polyoxyalkylenes, preparation

Polyoxyalkylenes, preparation

(polysiloxane-; preparation and **photoresist** properties of  
vinyl group-containing poly(siloxethylene glycol))IT Negative **photoresists**

Photoimaging materials

(preparation and **photoresist** properties of vinyl  
group-containing poly(siloxethylene glycol))IT 2150-02-9, Bis(2-mercaptoethyl) ether 7575-23-7, Pentaerythritol  
tetrakis(3-mercaptopropionate)(photochem. crosslinking agent; preparation and **photoresist**  
properties of vinyl group-containing poly(siloxethylene glycol))IT 119-61-9, Benzophenone, uses 3524-62-7, Benzoin methyl ether  
(**photosensitizer**; preparation and **photoresist**

properties of vinyl group-containing poly(siloxethylene glycol))

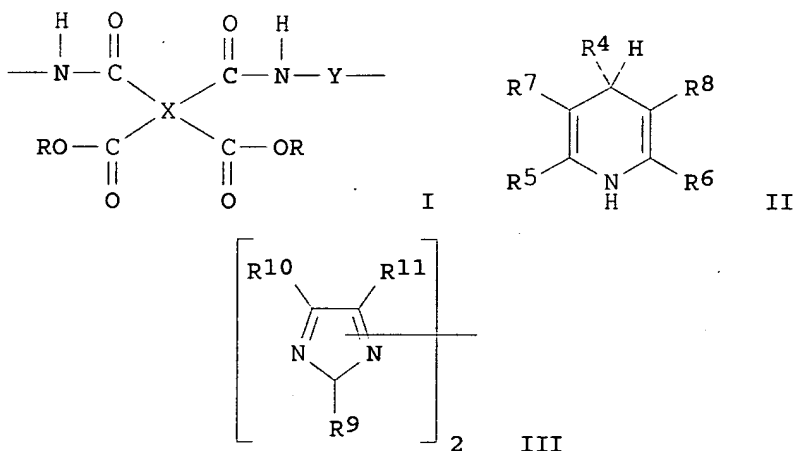
IT 181177-81-1P, Bis(diethylamino)divinylsilane-poly(ethylene  
oxide) copolymer(preparation and **photoresist** properties of vinyl  
group-containing poly(siloxethylene glycol))

L21 ANSWER 18 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:14953 HCAPLUS  
 DOCUMENT NUMBER: 126:52856  
 TITLE: **Photosensitive silyl polyimide composition**  
 INVENTOR(S): Kato, Hideto; Toyoda, Satoshi  
 PATENT ASSIGNEE(S): Shinetsu Chemical Industry Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
JP 08254831	A2	19961001	JP 1995-83365	1995 0315
PRIORITY APPLN. INFO.: JP 1995-83365				1995 0315

GI



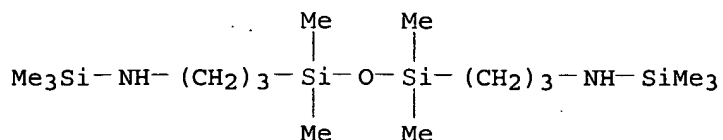
AB The composition contains a polyimide precursor with weight average mol. weight 20,000-100,000 having a repeating unit I (X = tetra-valent organic group; Y = di-valent organic group; R, R0 = SiR1R2R3; R1-3 = C1-8 monovalent organic group, H), a dihydropyrimidine compound II [R4 = (substituted) hydrocarbon, R5-6 = alkyl; R7-8 = COOR12, COR12, CN; R12 = alkyl], and hexaarylbiimidazole compound III [R9-11 = (substituted) aryl]. The composition shows high sensitivity and heat resistance and is useful for protective layer of elec. parts.  
 IT 151565-11-6P 151565-13-8P 184587-03-9P  
 (photosensitive silyl polyimide composition containing dihydropyrimidine compound and hexaarylbiimidazole compound)  
 RN 151565-11-6 HCAPLUS  
 CN 1,3-Isobenzofurandione, 5,5'-carbonylbis-, polymer with N,N'-(oxydi-4,1-phenylene)bis[1,1,1-trimethylsilanamine] and N,N'-[(1,1,3,3-tetramethyl-1,3-disiloxanediyl)di-3,1-

propanediyl]bis[1,1,1-trimethylsilanamine] (9CI) (CA INDEX NAME)

CM 1

CRN 151565-10-5

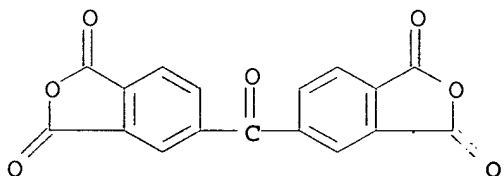
CMF C16 H44 N2 O Si4



CM 2

CRN 2421-28-5

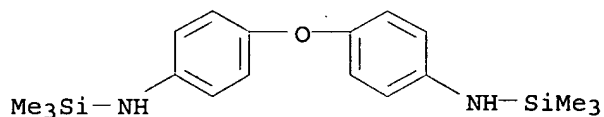
CMF C17 H6 O7



CM 3

CRN 1571-54-6

CMF C18 H28 N2 O Si2



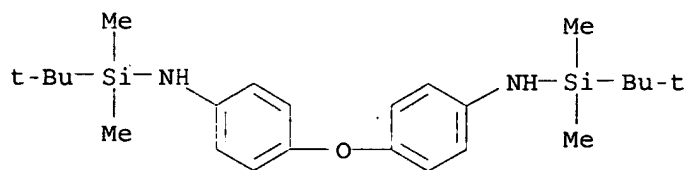
RN 151565-13-8 HCAPLUS

CN 1,3-Isobenzofurandione, 5,5'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, polymer with N,N'-(oxydi-4,1-phenylene)bis[1-(1,1-dimethylethyl)-1,1-dimethylsilanamine] and N,N'-[(1,1,3,3-tetramethyl-1,3-disiloxanediyl)di-3,1-propanediyl]bis[1,1,1-trimethylsilanamine] (9CI) (CA INDEX NAME)

CM 1

CRN 151565-12-7

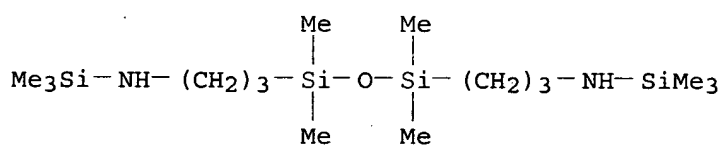
CMF C24 H40 N2 O Si2



CM 2

CRN 151565-10-5

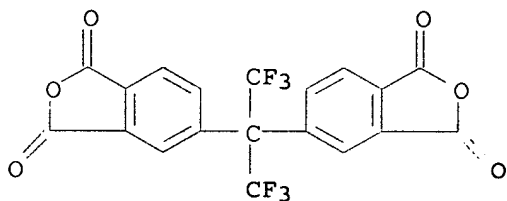
CMF C16 H44 N2 O Si4



CM 3

CRN 1107-00-2

CMF C19 H6 F6 O6



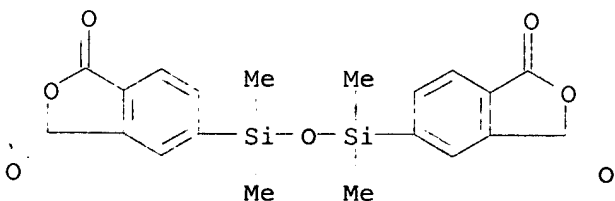
RN 184587-03-9 HCAPLUS

CN [5,5'-Biisobenzofuran]-1,1',3,3'-tetrone, polymer with  
N,N'-(methylenedi-4,1-phenylene)bis[1,1,1-trimethylsilanamine] and  
5,5'-(1,1,3,3-tetramethyl-1,3-disiloxanediyl)bis[1,3-  
isobenzofurandione] (9CI) (CA INDEX NAME)

CM 1

CRN 42297-28-9

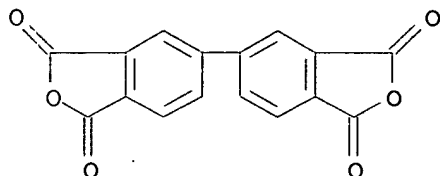
CMF C20 H18 O7 Si2



CM 2

CRN 2420-87-3

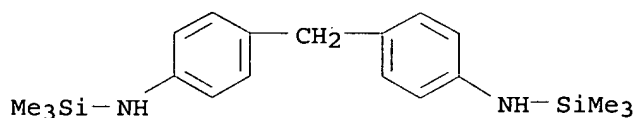
CMF C16 H6 O6



CM 3

CRN 1767-02-8

CMF C19 H30 N2 Si2

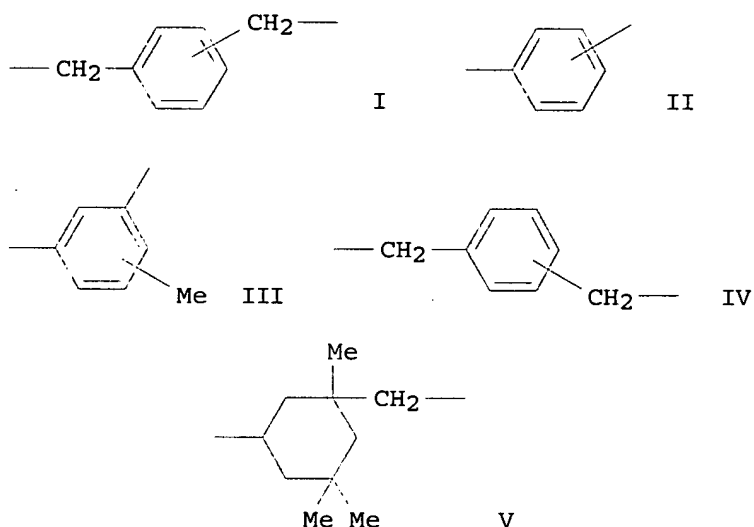


- IC ICM G03F007-075  
ICS C08K005-3432; C08K005-3445; C08L079-08; G03F007-004;  
G03F007-038
- CC 74-5 (Radiation Chemistry, **Photochemistry**, and  
**Photographic** and Other Reprographic Processes)  
Section cross-reference(s): 37, 76
- IT **Positive photoresists**  
(**photosensitive** silyl polyimide composition containing  
dihydropyridine compound and hexaarylbiimidazole compound)
- IT Polyimides, uses  
(**photosensitive** silyl polyimide composition containing  
dihydropyridine compound and hexaarylbiimidazole compound)
- IT 7189-82-4 21829-25-4, Nifedipine  
(**photosensitive** silyl polyimide composition containing  
dihydropyridine compound and hexaarylbiimidazole compound)
- IT 151565-11-6P 151565-13-8P 184587-03-9P  
(**photosensitive** silyl polyimide composition containing  
dihydropyridine compound and hexaarylbiimidazole compound)

L21 ANSWER 19 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 1996:417620 HCAPLUS  
DOCUMENT NUMBER: 125:71972  
TITLE: Waterless lithographic original plate  
INVENTOR(S): Ishida, Yutaka; Isono, Masanao; Ikeda,  
Norimasa  
PATENT ASSIGNEE(S): Toray Industries, Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 22 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	----	-----	
JP 08082921	A2	19960326	JP 1994-216260	1994 0909
PRIORITY APPLN. INFO.:			JP 1994-216260	1994 0909

GI



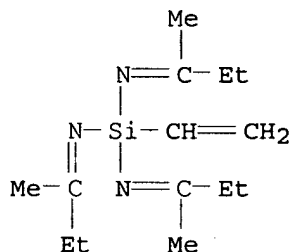
- AB The title plate comprises a substrate with coatings of a **photosensitive** layer and an ink-repellent layer formed by crosslinking-hardening silicone rubber composition containing a polyorganosiloxane 100 and a condensation catalyst 0.001-0.5 parts. The **photosensitive** layer may contain [R1OCH2CH(OH)CH2] [R2OCH2CH(OH)CH2] NHCHR5CH2 (OCH2CHR6)nN [CH2CH(OH)CH2OR3] [CH2CH(OH)CH2OR4] and/or [R7OCH2CH(OH)CH2] [R8OCH2CH(OH)CH2] N XN [CH2CH(OH)CH2OR9] [CH2CH(OH)CH2OR10] [R1-4, R7-10 = H, (un)substituted C1-20 acyl, (meth)acryloyl; R5, R6 = H, C1-20 alkyl; n = 1-50; X = I, II, (CH2)m (m = 1-20), III, IV, V]. The plate shows good image reproducibility, ink repellency, scratch resistance, and printing durability. Thus, an Al substrate coated with a primer layer and a photopolymerizable **photosensitive** layer was coated with a composition containing silanol-terminated dimethylpolysiloxane, ethyltriacetoxysilane, and dibutyltin diacetate and heat-dried to form a silicone rubber layer to give a lithog. original plate.
- IT 178441-05-9P  
(waterless lithog. original plate with ink-repellent silicone rubber layer containing controlled amount of crosslinking catalyst)
- RN 178441-05-9 HCAPLUS
- CN Silanediol, dimethyl-, polymer with 1-ethenyl-N,N',N''-tris(1-

methylpropylidene)silanetriamine (9CI) (CA INDEX NAME)

CM 1

CRN 178441-04-8

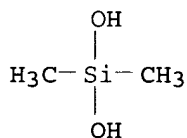
CMF C14 H27 N3 Si



CM 2

CRN 1066-42-8

CMF C2 H8 O2 Si



IC ICM G03F007-00

ICS G03F007-027; G03F007-038; G03F007-075; G03F007-085

CC 74-6 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)IT 156121-22-1P, Dimethylsilanediol-ethyltriacetoxysilane copolymer  
**178441-05-9P**

(waterless lithog. original plate with ink-repellent silicone rubber layer containing controlled amount of crosslinking catalyst)

L21 ANSWER 20 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:997474 HCAPLUS

DOCUMENT NUMBER: 124:131542

TITLE: **Photosensitive** resin composition and method for forming patterned polyimide film

INVENTOR(S): Kato, Hideto; Toyoda, Satoshi

PATENT ASSIGNEE(S): Shinetsu Chemical Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 07248626	A2	19950926	JP 1995-26196	

JP 3369344  
US 5573886B2 20030120  
A 19961112

US 1995-375837

1995  
01201995  
01201994  
0121

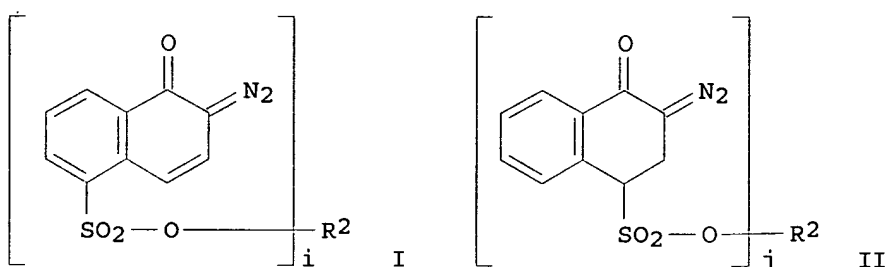
PRIORITY APPLN. INFO.:

JP 1994-21951

A

OTHER SOURCE(S):  
GI

MARPAT 124:131542



AB The **photosensitive** resin composition comprises a diazoquinone compound I or II ( $R_2$  = C1-50 organic group;  $i, j = 1-7$ ) and a phenol novolak resin. The process comprises coating a substrate with said composition to form a film, drying, exposing, developing an alkaline solution, and hardening the film. The **photosensitive** resin composition can be developed with an alkaline aqueous solution without decreasing a film thickness of the film.

IT 173194-53-1P

(photosensitive resin composition and method for forming patterned polyimide film)

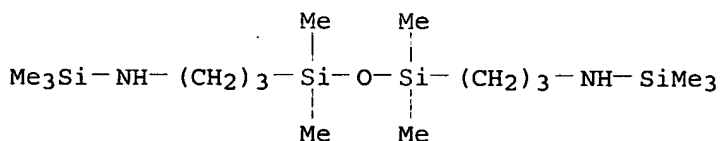
RN 173194-53-1 HCAPLUS

CN 1,2-Benzenedicarboxylic acid, 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, polymer with 4,4'-oxybis[benzenamine] and N,N'-[(1,1,3,3-tetramethyl-1,3-disiloxanediyl)di-3,1-propanediyl]bis[1,1,1-trimethylsilanamine] (9CI) (CA INDEX NAME)

CM 1

CRN 151565-10-5

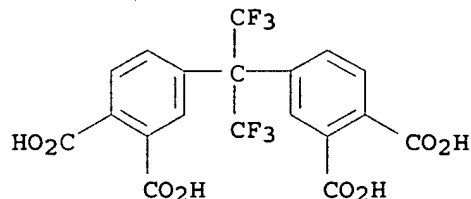
CMF C16 H44 N2 O Si4



CM 2

CRN 3016-76-0

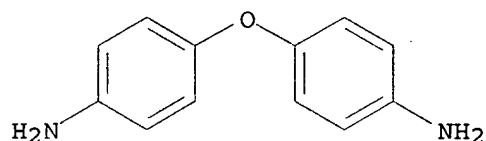
CMF C19 H10 F6 O8



CM 3

CRN 101-80-4

CMF C12 H12 N2 O



IC ICM G03F007-037

ICS C08K005-41; C08L079-08; G02F001-1337; G03F007-023;  
G03F007-075; G03F007-40; H01L021-027; H01L021-312;  
H01L023-29; H01L023-31; H05K003-28CC 74-5 (Radiation Chemistry, **Photochemistry**, and  
**Photographic** and Other Reprographic Processes)

Section cross-reference(s): 35, 38

ST diazoquinone compd **photosensitive** resin compn; polyimide  
film **photosensitive** resin compn

IT Polyamic acids

Polyimides, uses

(photosensitive resin composition and method for forming  
patterned polyimide film)

IT Phenolic resins, uses

(novolak, **photosensitive** resin composition and method for  
forming patterned polyimide film)

IT Resists

(photo-, **photosensitive** resin composition and method for  
forming patterned polyimide film)

IT 173194-53-1P

(photosensitive resin composition and method for forming  
patterned polyimide film)

IT 3770-97-6

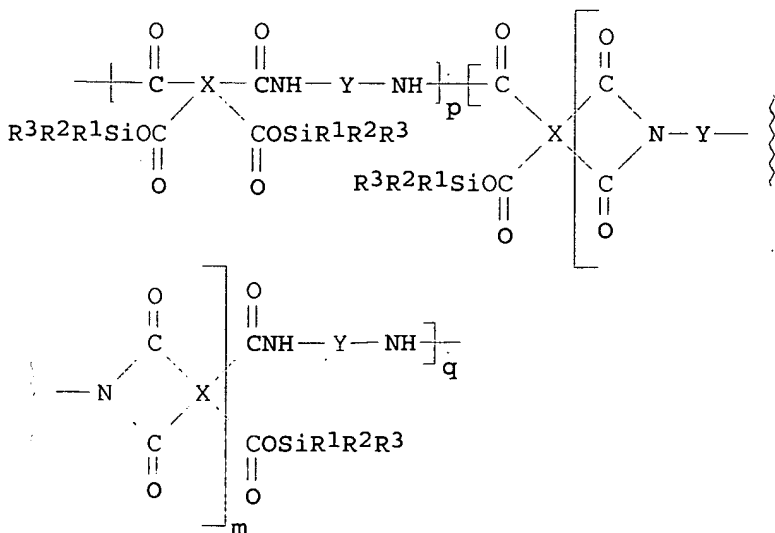
(photosensitive resin composition and method for forming  
patterned polyimide film)IT 95-48-7, o-Cresol, uses 27029-76-1, m-Cresol-p-cresol-  
formaldehyde copolymer 83803-86-5(photosensitive resin composition and method for forming  
patterned polyimide film)

L21 ANSWER 21 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:795387 HCAPLUS  
 DOCUMENT NUMBER: 123:325760  
 TITLE: **Photosensitive** resin composition  
 comprising a polyimide precursor and a  
**photosensitive** diazoquinone  
 INVENTOR(S): Okinoshima, Hiroshige; Kato, Hideto  
 PATENT ASSIGNEE(S): Shin-Etsu Chemical Co., Ltd., Japan  
 SOURCE: U.S., 9 pp.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO. -----	KIND ---	DATE -----	APPLICATION NO. -----	DATE
US 5441845	A	19950815	US 1994-197519	1994 0216
JP 07319162	A2	19951208	JP 1993-51418	1993 0217
JP 2787531	B2	19980820		
PRIORITY APPLN. INFO.:			JP 1993-51418	A 1993 0217

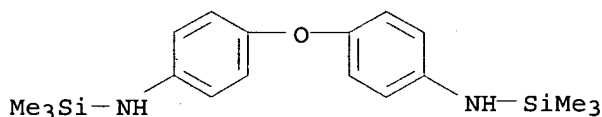
OTHER SOURCE(S): MARPAT 123:325760  
 GI



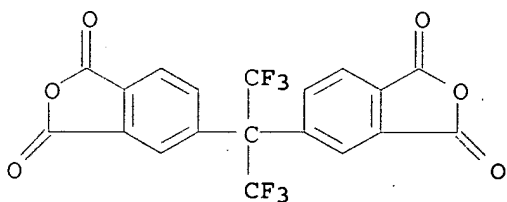
I

AB A **photosensitive** resin composition which is adapted for  
 protecting articles and particularly, electronic parts, therewith  
 comprises a polyimide precursor of the following general formula,  
 I (X = tetra-valent organic group; Y = divalent organic group; R1, R2, R3

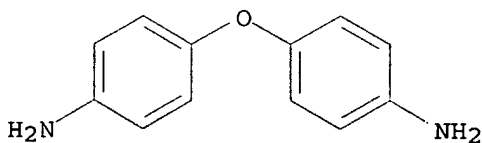
= H, C1-10 organic group; p, q, m  $\geq 1$ ), and a  
**photosensitive** diazoquinone compound  
 IT 170153-45-4, 2,2-Bis(3,4-benzenedicarboxylic acid  
 anhydride)perfluoropropane-N,N'-bis(trimethylsilyl)-4,4'-  
 diaminodiphenyl ether-4,4'-diaminodiphenyl ether copolymer  
 170153-46-5  
 (photosensitive resin composition comprising)  
 RN 170153-45-4 HCAPLUS  
 CN 1,3-Isobenzofurandione, 5,5'-[2,2,2-trifluoro-1-  
 (trifluoromethyl)ethylidene]bis-, polymer with  
 4,4'-oxybis[benzenamine] and N,N'-(oxydi-4,1-phenylene)bis[1,1,1-  
 trimethylsilanamine] (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 1571-54-6  
 CMF C18 H28 N2 O Si2



CM 2  
 CRN 1107-00-2  
 CMF C19 H6 F6 O6



CM 3  
 CRN 101-80-4  
 CMF C12 H12 N2 O



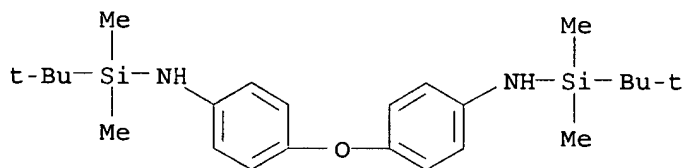
RN 170153-46-5 HCAPLUS  
 CN 1,3-Isobenzofurandione, 5,5'-carbonylbis-, polymer with  
 4,4'-methylenabis[benzenamine], N,N'-(oxydi-4,1-phenylene)bis[1-  
 (1,1-dimethylethyl)-1,1-dimethylsilanamine], N,N'-(oxydi-4,1-  
 phenylene)bis[1,1,1-trimethylsilanamine] and 5,5'-(1,1,3,3-

tetramethyl-1,3-disiloxanediyl)bis[1,3-isobenzofurandione] (9CI)  
(CA INDEX NAME)

CM 1

CRN 151565-12-7

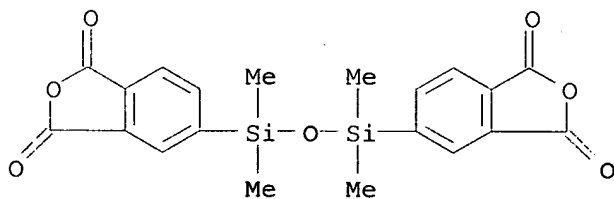
CMF C24 H40 N2 O Si2



CM 2

CRN 42297-28-9

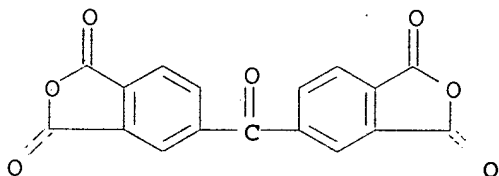
CMF C20 H18 O7 Si2



CM 3

CRN 2421-28-5

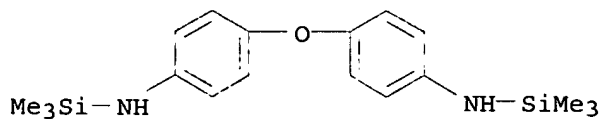
CMF C17 H6 O7



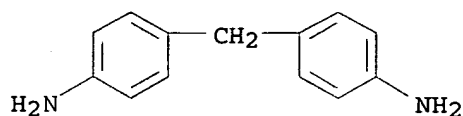
CM 4

CRN 1571-54-6

CMF C18 H28 N2 O Si2



CM 5

CRN 101-77-9  
CMF C13 H14 N2

IC ICM G03F007-023  
INCL 430191000  
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)  
ST **photosensitive** resin polyimide precursor diazoquinone  
IT Polyimides, uses  
(**photosensitive** resin composition comprising)  
IT Coating materials  
(heat-resistant, photocurable, **photosensitive** resin composition comprising a polyimide precursor and a **photosensitive** diazoquinone)  
IT Resists  
(photo-, **photosensitive** resin composition comprising a polyimide precursor and a **photosensitive** diazoquinone)  
IT 5610-94-6, 1-Naphthalenesulfonic acid, 6-diazo-5,6-dihydro-5-oxo-, 4-benzoyl-1,2,3-benzenetriyl ester 38595-90-3, 1-Naphthalenesulfonic acid, 6-diazo-5,6-dihydro-5-oxo-, (1-methylethylidene)di-4,1-phenylene ester 110471-70-0, 1-Naphthalenesulfonic acid, 6-diazo-5,6-dihydro-5-oxo-, methylphenyl ester **170153-45-4**, 2,2-Bis(3,4-benzenedicarboxylic acid anhydride)perfluoropropane-N,N'-bis(trimethylsilyl)-4,4'-diaminodiphenyl ether-4,4'-diaminodiphenyl ether copolymer **170153-46-5**  
(**photosensitive** resin composition comprising)

L21 ANSWER 22 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:777077 HCAPLUS

DOCUMENT NUMBER: 123:301357

TITLE: UV, x-ray and e-beam sensitive plasma polymerized resists

AUTHOR(S): Takenouchi, H.; Senda, K.; uchida, T.; Inanami, R.; Vinogradov, G. K.; Morita, Shinzo  
CORPORATE SOURCE: Center for Cooperative Research in Advanced Science and Technology, Nagoya University, Nagoya, 464-01, JapanSOURCE: Journal of Photopolymer Science and Technology (1995), 8(4), 687-8  
CODEN: JSTEWE; ISSN: 0914-9244

PUBLISHER: Technical Association of Photopolymers, Japan

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Silicon containing plasma polymerized resist films were exposed by UV and synchrotron orbital radiation (SOR) irradiation in an oxygen ambient. These patterned films are successfully developed by plasma etching. For the SOR experiment, about 0.3  $\mu\text{m}$  line pattern was

obtained. We are now preparing the experiment of electron beam patterning by a conductive AFM for a nanometer lithog., because x-ray sensitive resist have a sensitivity to the electron beam.

IT 27495-70-1, Hexamethyldisilazane homopolymer  
(silicon containing plasma polymerized resist films for synchrotron radiation exposure)  
RN 27495-70-1 HCAPLUS  
CN Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, homopolymer (9CI)  
(CA INDEX NAME)  
  
CM 1  
  
CRN 999-97-3  
CMF C6 H19 N Si2

Me<sub>3</sub>Si-NH-SiMe<sub>3</sub>

CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)  
ST synchrotron radiation resist plasma polymd hexamethyldisilazane; silicon contg plasma polymd resist; **photoresist** plasma polymd hexamethyldisilazane lithog  
IT 27495-70-1, Hexamethyldisilazane homopolymer  
(silicon containing plasma polymerized resist films for synchrotron radiation exposure)

L21 ANSWER 23 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:733680 HCAPLUS  
DOCUMENT NUMBER: 123:213232  
TITLE: **Photosensitive** resin composition containing polyimide with silyl ester group  
INVENTOR(S): Okinoshima, Hiroshige; Kato, Hideto  
PATENT ASSIGNEE(S): Shinetsu Chemical Industry Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 07140659	A2	19950602	JP 1993-179954	1993 0625
PRIORITY APPLN. INFO.: JP 1993-179954				1993 0625

AB The composition comprises a polymer -COX(COOSiR<sub>1</sub>R<sub>2</sub>R<sub>3</sub>)<sub>2</sub>CONHYNH- [X = tetravalent organic group with aromatic or alicyclic group; Y = divalent organic group; R<sub>1</sub>-3 = H, C1-10 (substituted) monovalent hydrocarbon] and **photosensitive** acid generating agent. An elec. circuit protective film prepared by hardening the **photosensitive** composition is also claimed. The composition shows high sensitivity, swelling on development is prevented, and is useful for the protective film for elec. circuits.

IT 168201-06-7P 168201-08-9P 168201-09-0P  
(photoresist composition containing polyimide with silyl ester group and photosensitive acid generator)

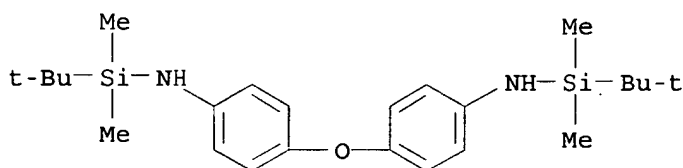
RN 168201-06-7 HCAPLUS

CN 1,3-Isobenzofurandione, 5,5'-carbonylbis-, polymer with N,N'-(oxydi-4,1-phenylene)bis[1-(1,1-dimethylethyl)-1,1-dimethylsilanamine] and N,N'-[(1,1,3,3-tetramethyl-1,3-disiloxanediyl)di-3,1-propanediyl]bis[1,1,1-trimethylsilanamine] (9CI) (CA INDEX NAME)

CM 1

CRN 151565-12-7

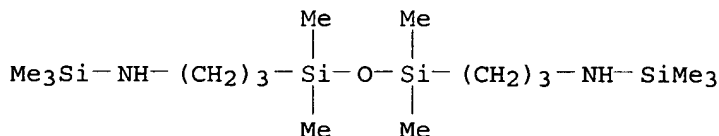
CMF C24 H40 N2 O Si2



CM 2

CRN 151565-10-5

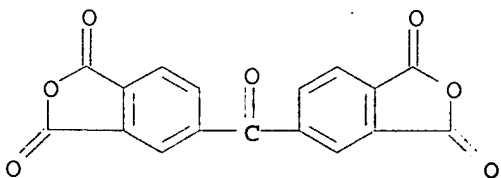
CMF C16 H44 N2 O Si4



CM 3

CRN 2421-28-5

CMF C17 H6 O7



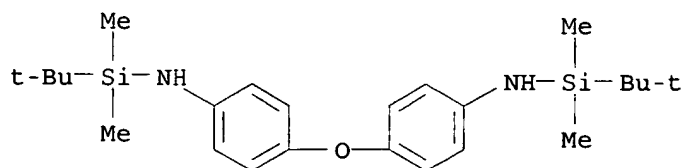
RN 168201-08-9 HCAPLUS

CN 1,3-Isobenzofurandione, 5,5'-(1,1,3,3-tetramethyl-1,3-disiloxanediyl)bis-, polymer with N,N'-(oxydi-4,1-phenylene)bis[1-(1,1-dimethylethyl)-1,1-dimethylsilanamine], N,N'-(oxydi-4,1-phenylene)bis[1,1,1-trimethylsilanamine] and 5,5'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[1,3-isobenzofurandione] (9CI) (CA INDEX NAME)

CM 1

CRN 151565-12-7

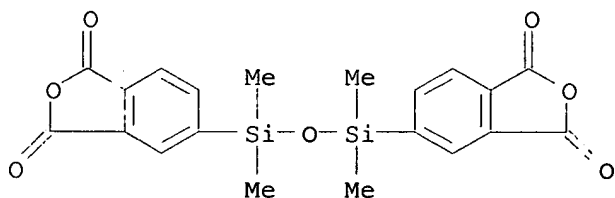
CMF C24 H40 N2 O Si2



CM 2

CRN 42297-28-9

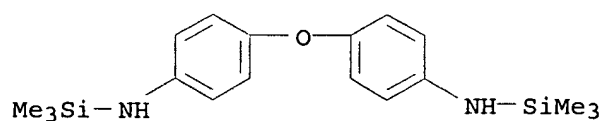
CMF C20 H18 O7 Si2



CM 3

CRN 1571-54-6

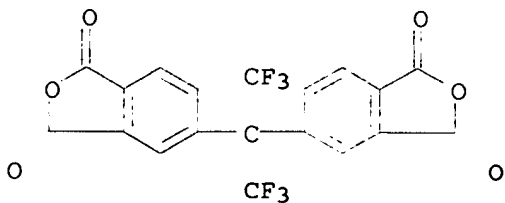
CMF C18 H28 N2 O Si2



CM 4

CRN 1107-00-2

CMF C19 H6 F6 O6

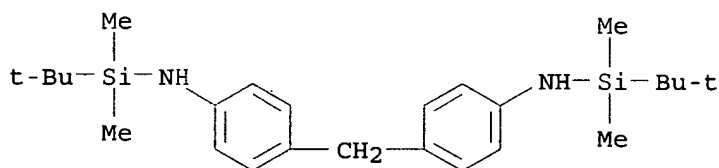


RN 168201-09-0 HCAPLUS  
 CN 1,3-Isobenzofurandione, 5,5'-carbonylbis-, polymer with  
 N,N'-(methylenedi-4,1-phenylene)bis[1-(1,1-dimethylethyl)-1,1-  
 dimethylsilanamine], N,N'-(oxydi-4,1-phenylene)bis[1,1,1-  
 trimethylsilanamine] and 5,5'-(1,1,3,3-tetramethyl-1,3-  
 disiloxanediyl)bis[1,3-isobenzofurandione] (9CI) (CA INDEX NAME)

CM 1

CRN 151565-35-4

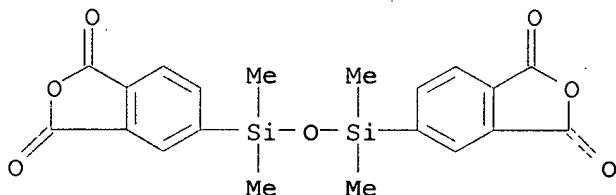
CMF C25 H42 N2 Si2



CM 2

CRN 42297-28-9

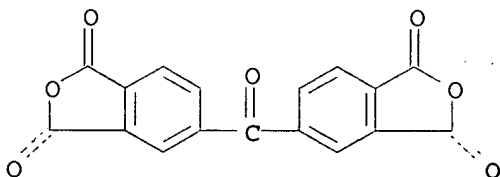
CMF C20 H18 O7 Si2



CM 3

CRN 2421-28-5

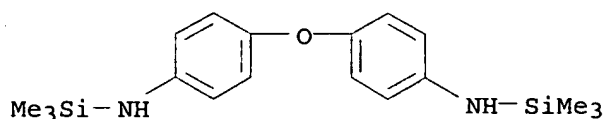
CMF C17 H6 O7



CM 4

CRN 1571-54-6

CMF C18 H28 N2 O Si2



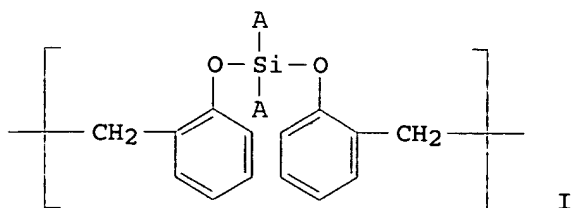
IC ICM G03F007-038  
 ICS C08L079-08; G03F007-004; G03F007-075; H01L021-312  
 CC 74-5 (Radiation Chemistry, **Photochemistry**, and  
**Photographic** and Other Reprographic Processes)  
 Section cross-reference(s): 76  
 ST **photosensitive** resin polyimide silyl ester;  
**photoresist** elec circuit protective film  
 IT Polyamic acids  
 Polyimides, uses  
 (photoresist composition containing polyimide with silyl ester  
 group and **photosensitive** acid generator)  
 IT Resists  
 (photo-, **photoresist** composition containing polyimide with  
 silyl ester group and **photosensitive** acid generator)  
 IT 168201-06-7P 168201-08-9P 168201-09-0P  
 (photoresist composition containing polyimide with silyl ester  
 group and **photosensitive** acid generator)  
 IT 61358-23-4 66003-78-9 121172-98-3  
 (photoresist composition containing polyimide with silyl ester  
 group and **photosensitive** acid generator)

L21 ANSWER 24 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1994:178170 HCAPLUS  
 DOCUMENT NUMBER: 120:178170  
 TITLE: Spin on oxygen reactive ion etch barrier  
 INVENTOR(S): Agostino, Peter A.; Giri, Ajay P.; Hiraoka,  
 Hiroyuki; Willson, Carlton G.; Dawson, Daniel  
 J.  
 PATENT ASSIGNEE(S): International Business Machines Corp., USA  
 SOURCE: U.S., 7 pp.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5270151	A	19931214	US 1992-852865	1992 0317
PRIORITY APPLN. INFO.:				1992 0317

GI

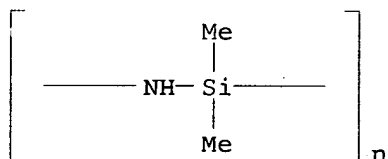


AB Reaction products I [A = Me or Ph] of organosilane compds. or polydiphenylsilane compds. and a novolak resin having phenolic groups can be used as O RIE barrier materials in semiconductor etching processes. These materials have low O etching rates and can be spun on to form crack-free thick layers.

IT 32169-90-7D, Poly[imino(dimethylsilylene)], reaction product with Alnovol PN430 110933-74-9D, Poly[imino(methylphenylsilylene)], reaction product with Alnovol PN430 153340-09-1D, Poly[imino(diphenylsilylene)], reaction product with Alnovol PN430 (RIE barrier from, in production of semiconductor devices)

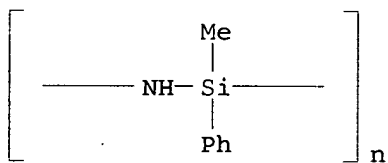
RN 32169-90-7 HCAPLUS

CN Poly[imino(dimethylsilylene)] (8CI, 9CI) (CA INDEX NAME)



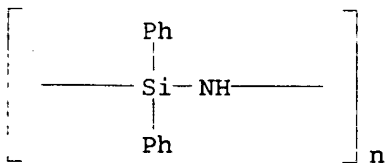
RN 110933-74-9 HCAPLUS

CN Poly[imino(methylphenylsilylene)] (9CI) (CA INDEX NAME)



RN 153340-09-1 HCAPLUS

CN Poly[imino(diphenylsilylene)] (9CI) (CA INDEX NAME)



IC ICM G03F007-26

INCL 430313000

CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)  
 Section cross-reference(s): 76  
 ST oxygen etching barrier **photoresist**; RIE barrier semiconductor patterning  
 IT 75-78-5D, reaction product with Alnovol PN430 80-10-4D, reaction product with Alnovol PN430 149-74-6D, Methylphenyldichlorosilane, reaction product with Alnovol PN430 9003-35-4D, Alnovol PN430, reaction product with silanes and silazanes **32169-90-7D**, Poly[imino(dimethylsilylene)], reaction product with Alnovol PN430 **110933-74-9D**, Poly[imino(methylphenylsilylene)], reaction product with Alnovol PN430 **153340-09-1D**, Poly[imino(diphenylsilylene)], reaction product with Alnovol PN430  
 (RIE barrier from, in production of semiconductor devices)

L21 ANSWER 25 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1993:682263 HCAPLUS

DOCUMENT NUMBER: 119:282263

TITLE: **Photosensitive** resin compositions, their preparation and use

INVENTOR(S): Okinoshima, Hiroshige; Kato, Hideto

PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 16 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
EP 554040	A2	19930804	EP 1993-300536	1993 0126
EP 554040 R: DE, FR, GB	A3	19931229		
JP 05204156	A2	19930813	JP 1992-35670	1992 0127
PRIORITY APPLN. INFO.:			JP 1992-35670	A 1992 0127

AB A **photosensitive** resin composition for forming protective insulating films for semiconductor devices and printed circuit boards and orienting films for liquid-crystal display devices comprises a **photosensitive** diazoquinone derivative and a polyimide precursor comprising acid anhydride, silylated diamine, and diamine units. The composition is exposed to UV radiation through a mask, developed in a aqueous tetramethylammonium hydroxide solution, and cured at 200-350° to give a heat-resistant pattern having excellent elec. and mech. properties.

IT **151565-11-6P 151565-13-8P 151565-14-9P 151565-36-5P**

(preparation of, polyimide precursors, for **photosensitive** compns. for forming insulating coatings)

RN 151565-11-6 HCAPLUS

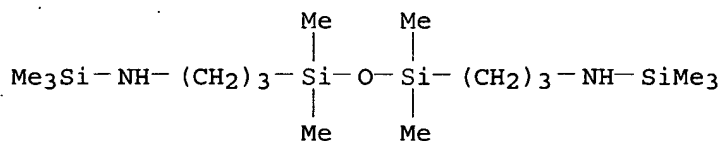
CN 1,3-Isobenzofurandione, 5,5'-carbonylbis-, polymer with

N,N'-(oxydi-4,1-phenylene)bis[1,1,1-trimethylsilanamine] and  
 N,N'-[(1,1,3,3-tetramethyl-1,3-disiloxanediyl)di-3,1-  
 propanediyl]bis[1,1,1-trimethylsilanamine] (9CI) (CA INDEX NAME)

CM 1

CRN 151565-10-5

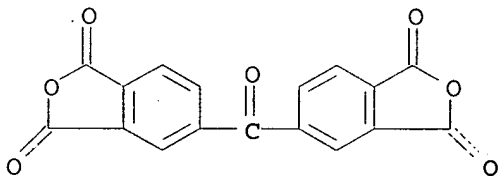
CMF C16 H44 N2 O Si4



CM 2

CRN 2421-28-5

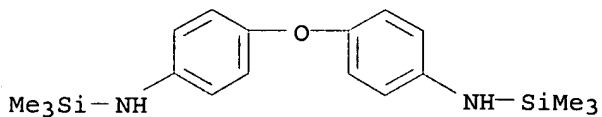
CMF C17 H6 O7



CM 3

CRN 1571-54-6

CMF C18 H28 N2 O Si2



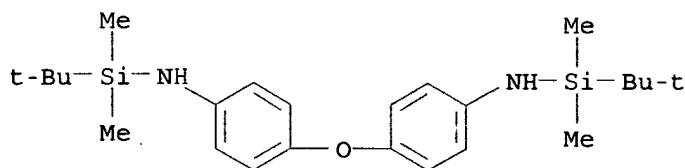
RN 151565-13-8 HCAPLUS

CN 1,3-Isobenzofurandione, 5,5'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, polymer with  
 N,N'-(oxydi-4,1-phenylene)bis[1-(1,1-dimethylethyl)-1,1-dimethylsilanamine] and N,N'-[(1,1,3,3-tetramethyl-1,3-disiloxanediyl)di-3,1-propanediyl]bis[1,1,1-trimethylsilanamine]  
 (9CI) (CA INDEX NAME)

CM 1

CRN 151565-12-7

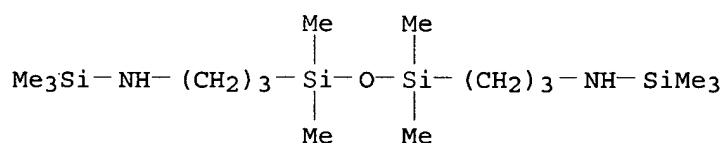
CMF C24 H40 N2 O Si2



CM 2

CRN 151565-10-5

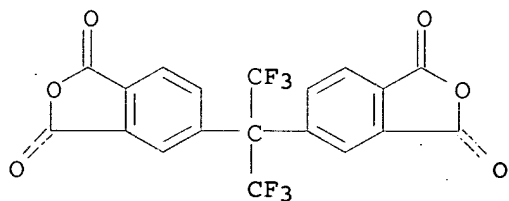
CMF C16 H44 N2 O Si4



CM 3

CRN 1107-00-2

CMF C19 H6 F6 O6



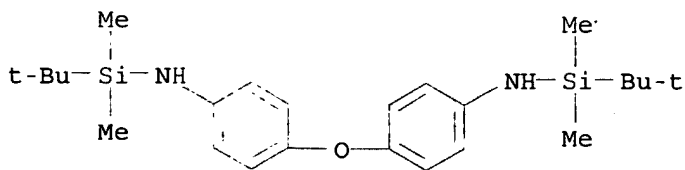
RN 151565-14-9 HCAPLUS

CN 1,3-Isobenzofurandione, 5,5'-carbonylbis-, polymer with  
 N,N'-(oxydi-4,1-phenylene)bis[1,1,1-trimethylsilylanamine],  
 N,N'-(oxydi-4,1-phenylene)bis[1-(1,1-dimethylethyl)-1,1-  
 dimethylsilylanamine] and 5,5'-(1,1,3,3-tetramethyl-1,3-  
 disiloxanediyl)bis[1,3-isobenzofurandione] (9CI) (CA INDEX NAME)

CM 1

CRN 151565-12-7

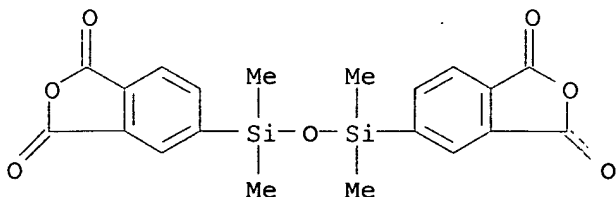
CMF C24 H40 N2 O Si2



CM 2

CRN 42297-28-9

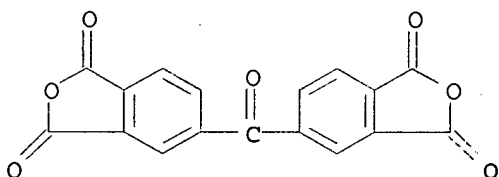
CMF C20 H18 O7 Si2



CM 3

CRN 2421-28-5

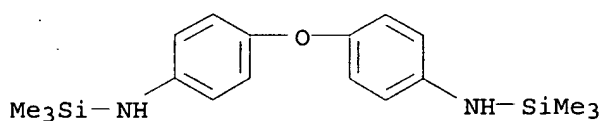
CMF C17 H6 O7



CM 4

CRN 1571-54-6

CMF C18 H28 N2 O Si2



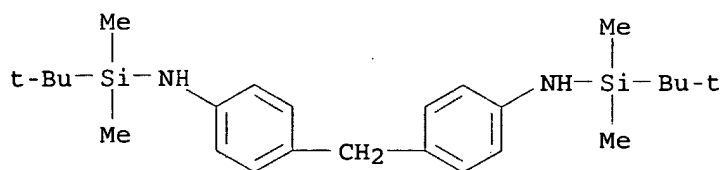
RN 151565-36-5 HCAPLUS

CN 1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, polymer with 4,4'-methylenabis[benzenamine], N,N'-(methylenedi-4,1-phenylene)bis[1-(1,1-dimethylethyl)-1,1-dimethylsilanamine] and 5,5'-(1,1,3,3-tetramethyl-1,3-disiloxanediyl)bis[1,3-isobenzofurandione] (9CI) (CA INDEX NAME)

CM 1

CRN 151565-35-4

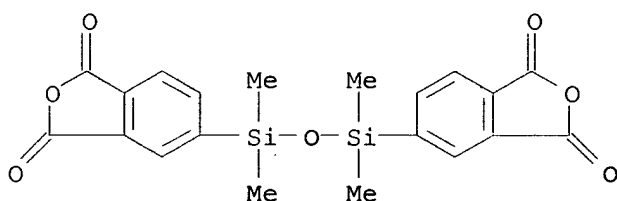
CMF C25 H42 N2 Si2



CM 2

CRN 42297-28-9

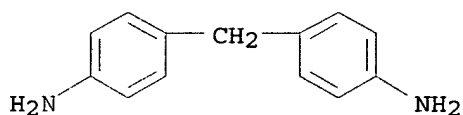
CMF C20 H18 O7 Si2



CM 3

CRN 101-77-9

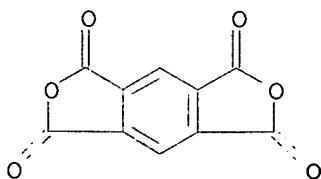
CMF C13 H14 N2



CM 4

CRN 89-32-7

CMF C10 H2 O6



IC ICM C08L079-08

ICS G03F007-075

CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)  
 Section cross-reference(s): 76

ST **photosensitive** compn polyimide precursor insulating coating; diazoquinone sensitizer **photosensitive**

polyimide precursor  
 IT Photoimaging compositions and processes  
     (containing **photosensitive** diazoquinone derivs. and  
     silylated polyimide precursors)  
 IT Polyamic acids  
     (silylated, **photosensitive** compns. containing  
     diazoquinone derivs. and, for forming insulating coatings)  
 IT 5610-94-6 38595-90-3 83803-86-5  
     (**photosensitive** resin compns. containing silylated  
     polyimide precursors and, for forming insulating coatings)  
 IT 151565-11-6P 151565-13-8P 151565-14-9P  
     151565-36-5P  
     (preparation of, polyimide precursors, for **photosensitive**  
     compns. for forming insulating coatings)

L21 ANSWER 26 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1991:82743 HCAPLUS

DOCUMENT NUMBER: 114:82743

TITLE: Methylsilylated **photosensitive**  
 polyamide compositions

INVENTOR(S): Furuya, Hiroyuki; Nagano, Kosaku

PATENT ASSIGNEE(S): Kanegafuchi Chemical Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 02217856	A2	19900830	JP 1989-38858	1989

PRIORITY APPLN. INFO.: JP 1989-38858

0217

1989  
0217

AB Title compns., useful for **photoresists** or elec.  
 insulators, comprise -NHCOR1(CO<sub>2</sub>SiMe<sub>2</sub>Z)2CONHR2- units (R1 =  
 tetravalent organic group; R2 = divalent organic group; Z =  
**photosensitive** substituent). Thus, 2.01 g oxydianiline  
 and 2.56 g dimethylvinylsilyl chloride were reacted in the  
 presence of Et<sub>3</sub>N in refluxing DMF, then 3.72 g the resulted  
 vinyl-containing diamine ether was treated with 2.18 g pyromellitic  
 dianhydride to give a polyamic acid solution, which was applied onto  
 an Al plate, dried, imagewise exposed, developed by a mixture of  
 acetone and DMF, and heated at 300° for 1.5 h to give a  
 neg. patterned polyimide film showing weight loss temperature 492°.

IT 127536-86-1P 131914-90-4P

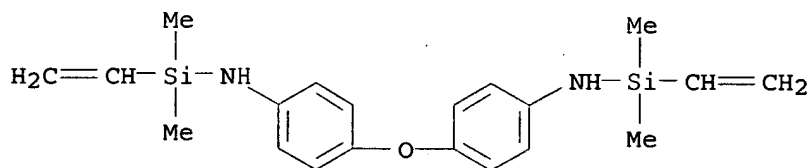
(preparation of, heat-resistant, **photosensitive**, for  
**photoresist** or elec. insulators)

RN 127536-86-1 HCAPLUS

CN 1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, polymer with  
 N,N'-(oxydi-4,1-phenylene)bis[1-ethenyl-1,1-dimethylsilanamine]  
 (9CI) (CA INDEX NAME)

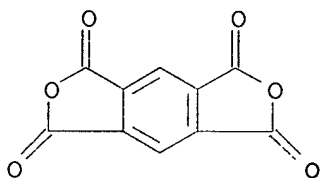
CM 1

CRN 121783-91-3  
CMF C20 H28 N2 O Si2



CM 2

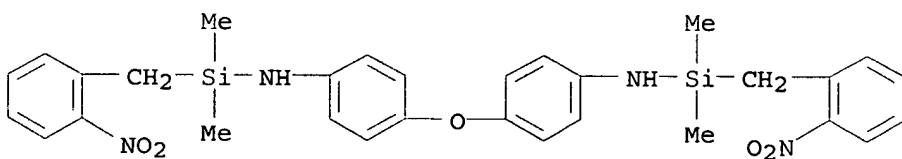
CRN 89-32-7  
CMF C10 H2 O6



RN 131914-90-4 HCAPLUS  
CN 1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, polymer with  
N,N'-(oxydi-4,1-phenylene)bis[dimethyl[(2-nitrophenyl)methyl]silanamine] (9CI) (CA INDEX NAME)

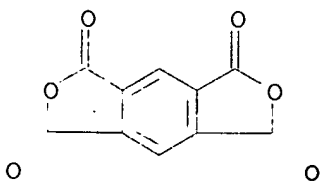
CM 1

CRN 131914-89-1  
CMF C30 H34 N4 O5 Si2



CM 2

CRN 89-32-7  
CMF C10 H2 O6



IC ICM G03F007-027  
ICS C08G073-10; C08L079-08; G03F007-075; H01L021-027

CC 35-3 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 74

ST **photosensitive** polyamic acid polyimide film;  
methylvinylsilylated oxyaniline pyromellitic anhydride copolymer;  
**photoresist** elec insulator **photosensitive**  
polyimide; heat resistance polyimide **photoresist**

IT Heat-resistant materials  
(methylsilylated polyimides, **photosensitive**, for  
**photoresists** or elec. insulators)

IT Polyamic acids  
(**photosensitive**, for **photoresists** or elec.  
insulators, with heat resistance)

IT Polyimides, preparation  
(preparation of, heat-resistant, **photosensitive**, for  
**photoresist** or elec. insulators)

IT Resists  
(photo-, methylsilylated **photosensitive** polyamic  
acids for, with heat resistance)

IT 101-80-4 1719-58-0, Dimethylvinylsilyl chloride 132042-42-3  
(**photosensitive** polyimides from, for  
**photoresists** or elec. insulators, with heat resistance)

IT 127536-86-1P 131914-90-4P  
(preparation of, heat-resistant, **photosensitive**, for  
**photoresist** or elec. insulators)

L21 ANSWER 27 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1990:562338 HCAPLUS

DOCUMENT NUMBER: 113:162338

TITLE: A study of novel heat-resistant polymers:  
preparation of **photosensitive**  
fluorinated polybenzoxazole precursors and  
physical properties of polybenzoxazoles  
derived from the precursors

AUTHOR(S): Yamaoka, Tsuguo; Nakajima, Nobuko; Koseki,  
Ken'ichi; Maruyama, Yutaka

CORPORATE SOURCE: Fac. Eng., Chiba Univ., Chiba, 260, Japan

SOURCE: Journal of Polymer Science, Part A: Polymer  
Chemistry (1990), 28(9), 2517-32  
CODEN: JPACEC; ISSN: 0887-624X

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A series of novel **photosensitive** polybenzoxazole  
precursors were prepared from polycondensation of  
2,2-bis(3,3'-amino-4,4'-hydroxyphenyl)hexafluoropropane with  
**photosensitive** dicarboxylic acid chlorides such as  
p-phenylenediacryloyl chloride and benzophenone-4,4'-dicarboxylic  
chloride. The precursors are soluble in common organic solvents owing  
to the presence of perfluoromethyl groups in the chain structure  
and insolubilized in the solvents upon irradiation with the light.  
Polybenzoxazole patterns with high resolution as well as high aspect  
ratio were reproduced by baking the precursor patterns at  
300°. The pattern shrinkage on the conversion to  
polybenzoxazole was slight. The polybenzoxazole films offered  
good heat-resistance up to 400° in addition to good elec.  
properties.

IT 129701-94-6D, reaction products with methacryloyl chloride  
129726-49-4 129726-52-9 129726-53-0

(heat-resistant fluorinated polybenzoxazole precursor, as potential photoimaging and photoresist materials)

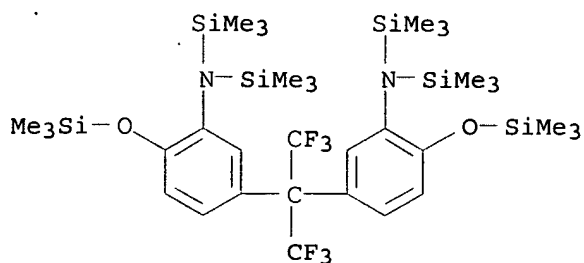
RN 129701-94-6 HCAPLUS

CN Benzoyl chloride, 4,4'-carbonylbis-, polymer with N,N'-[[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[5-[(trimethylsilyl)oxy]-3,1-phenylene]]bis[1,1,1-trimethyl-N-(trimethylsilyl)silanamine] (9CI) (CA INDEX NAME)

CM 1

CRN 129726-48-3

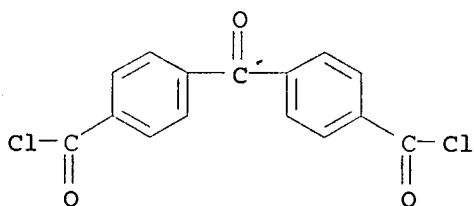
CMF C33 H60 F6 N2 O2 Si6



CM 2

CRN 6423-31-0

CMF C15 H8 Cl2 O3



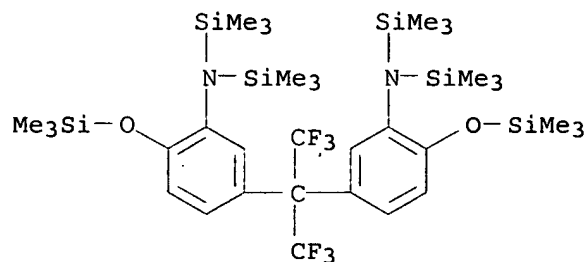
RN 129726-49-4 HCAPLUS

CN 2-Propenoyl chloride, 3,3'-(1,4-phenylene)bis-, polymer with N,N'-[[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[6-[(trimethylsilyl)oxy]-3,1-phenylene]]bis[1,1,1-trimethyl-N-(trimethylsilyl)silanamine] (9CI) (CA INDEX NAME)

CM 1

CRN 129726-48-3

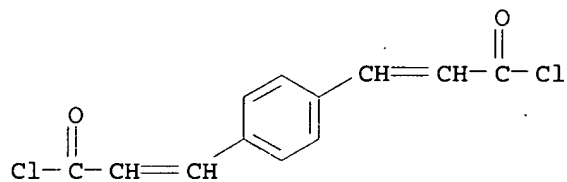
CMF C33 H60 F6 N2 O2 Si6



CM 2

CRN 35288-49-4

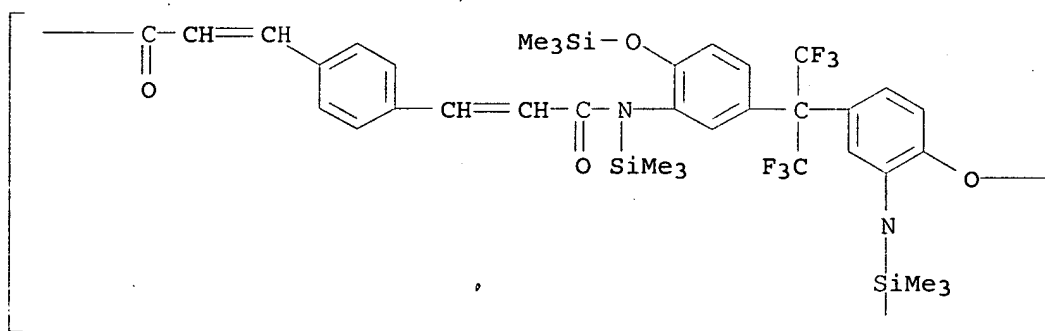
CMF C12 H8 Cl2 O2



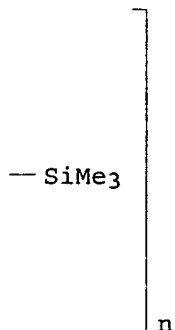
RN 129726-52-9 HCAPLUS

CN Poly[[[(trimethylsilyl)imino] [6-[(trimethylsilyl)oxy]-1,3-phenylene] [2,2,2-trifluoro-1-(trifluoromethyl)ethylidene] [4-[(trimethylsilyl)oxy]-1,3-phenylene] [(trimethylsilyl)imino] (1-oxo-2-propene-1,3-diyl)-1,4-phenylene (3-oxo-1-propene-1,3-diyl)] (9CI)  
(CA INDEX NAME)

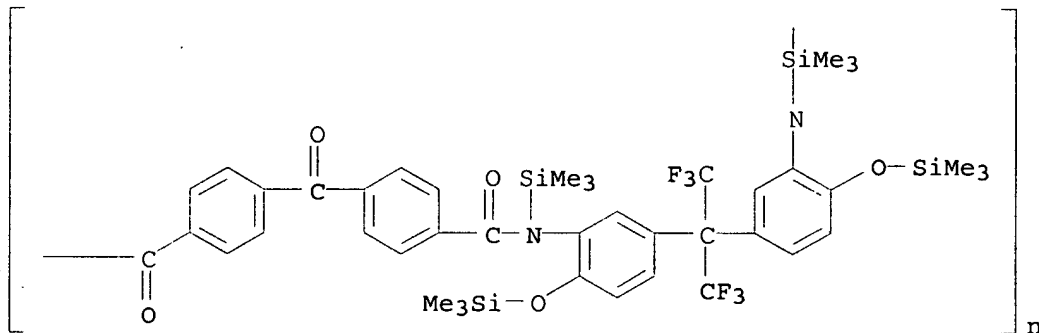
PAGE 1-A



PAGE 1-B



RN 129726-53-0 HCAPLUS  
 CN Poly[[(trimethylsilyl)imino] [6-[(trimethylsilyl)oxy]-1,3-phenylene] [2,2,2-trifluoro-1-(trifluoromethyl)ethylidene] [4-[(trimethylsilyl)oxy]-1,3-phenylene] [(trimethylsilyl)imino] carbonyl-1,4-phenylenecarbonyl-1,4-phenylenecarbonyl] (9CI) (CA INDEX NAME)



CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 76  
 ST photoresist fluorinated polybenzoxazole deriv  
 IT 920-46-7D, Methacryloyl chloride, reaction products with fluorinated polybenzoxazole precursor polymer 129701-94-6D, reaction products with methacryloyl chloride 129726-49-4 129726-52-9 129726-53-0  
 (heat-resistant fluorinated polybenzoxazole precursor, as potential photoimaging and photoresist materials)

L21 ANSWER 28 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1990:414810 HCAPLUS  
 DOCUMENT NUMBER: 113:14810  
 TITLE: Heat-resistant photoresist  
 INVENTOR(S): Wada, Keiichiro; Furukawa, Nobuyuki  
 PATENT ASSIGNEE(S): Nippon Steel Chemical Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01230631	A2	19890914	JP 1988-55958	1988 0311
PRIORITY APPLN. INFO.: JP 1988-55958				1988 0311

AB A tetracarboxylic anhydride is reacted with a silylated diamine containing **photosensitive** groups at  $\leq 100^\circ$  in an organic solvent. The resultant heat-resistant **photosensitive** polyimide or polyamidoimide is used as a **photoresist** for relief pattern formation during semiconductor device fabrication.

IT 127536-86-1 127554-77-2 127706-32-5  
(photoresist composition using, for heat-resist resist pattern formation)

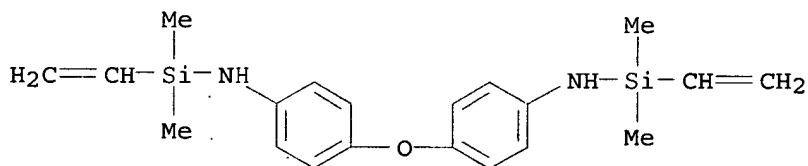
RN 127536-86-1 HCAPLUS

CN 1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, polymer with N,N'-(oxydi-4,1-phenylene)bis[1-ethenyl-1,1-dimethylsilanamine] (9CI) (CA INDEX NAME)

CM 1

CRN 121783-91-3

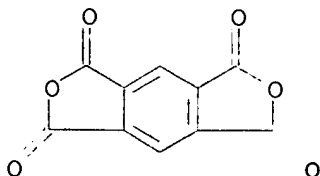
CMF C20 H28 N2 O Si2



CM 2

CRN 89-32-7

CMF C10 H2 O6



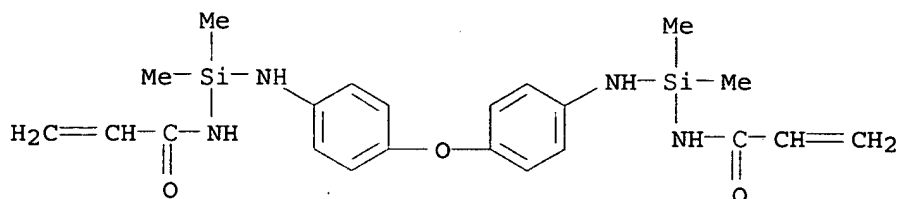
RN 127554-77-2 HCAPLUS

CN 2-Propenamimide, N,N'-[oxybis[4,1-phenyleneimino(dimethylsilylene)]] bis-, polymer with 1H,3H-benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone (9CI) (CA INDEX NAME)

CM 1

CRN 127554-76-1

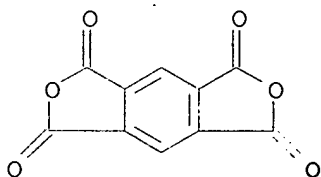
CMF C22 H30 N4 O3 Si2



CM 2

CRN 89-32-7

CMF C10 H2 O6



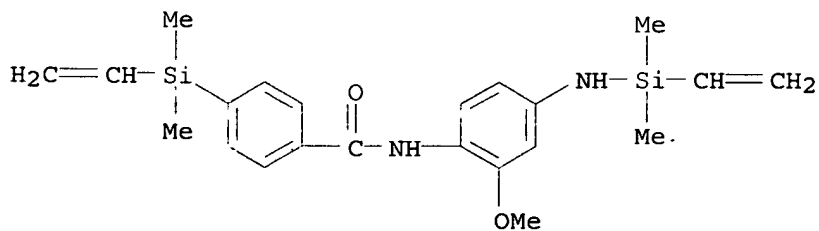
RN 127706-32-5 HCAPLUS

CN Benzamide, 4-(ethenyldimethylsilyl)-N-[4-  
 [(ethenyldimethylsilyl)amino]-2-methoxyphenyl]-, polymer with  
 1H,3H-benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone (9CI) (CA INDEX  
 NAME)

CM 1

CRN 127706-31-4

CMF C22 H30 N2 O2 Si2



CM 2

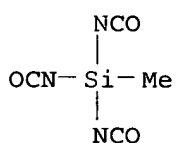
CRN 89-32-7

CMF C10 H2 O6

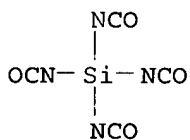


methylsilyl isocyanate and tetrasilyl isocyanate, and then coated with a composition containing V-200 (polyester resin) and a SnO<sub>2</sub> powder to give a photoreceptor, which showed good charging properties, sensitivity, and a low residual potential.

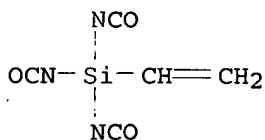
IT 120469-29-6 120469-30-9  
 (electrophotog. photoreceptor with interlayers containing, for improved durability)  
 RN 120469-29-6 HCAPLUS  
 CN Silane, tetraisocyanato-, polymer with triisocyanatomethylsilane (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 5587-61-1  
 CMF C4 H3 N3 O3 Si



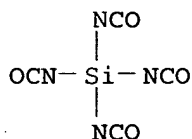
CM 2  
 CRN 3410-77-3  
 CMF C4 N4 O4 Si



RN 120469-30-9 HCAPLUS  
 CN Silane, ethenyltriisocyanato-, polymer with tetraisocyanatosilane (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 18297-37-5  
 CMF C5 H3 N3 O3 Si



CM 2  
 CRN 3410-77-3  
 CMF C4 N4 O4 Si



IC ICM G03G005-14  
 CC 74-3 (Radiation Chemistry, **Photochemistry**, and  
**Photographic** and Other Reprographic Processes)  
 IT 120469-29-6 120469-30-9  
 (electrophotog. photoreceptor with interlayers containing, for  
 improved durability)

L21 ANSWER 30 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1988:213993 HCAPLUS

DOCUMENT NUMBER: 108:213993

TITLE: Positive-working **photosensitive**  
 compositions for lithographic plates

INVENTOR(S): Urano, Toshoshi; Tomiyasu, Hiroshi; Maeda,  
 Yoshihiro; Nakai, Hideyuki; Goto, Sei; Sasa,  
 Nobumasa

PATENT ASSIGNEE(S): Mitsubishi Chemical Industries Co., Ltd.,  
 Japan; Konica Co.

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 62222246	A2	19870930	JP 1986-16687	1986 0130
PRIORITY APPLN. INFO.:				JP 1986-16687
				1986 0130

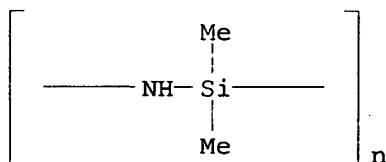
AB The title compns. contain agents that generate acids on irradiation with light and compds. or polymers containing Si-N bonds cleaved with the acids. The compns. do not contain quinoeazide compds. and provide high sensitivity and clean, non-reddish images. Thus, a cleaned, etched, anodized, and sealed Al plate was coated with a composition containing a m,p-cresol-HCHO-phenol novolak resin 6.0, 1,1,1,3,3,3-hexamethylsilazane 0.66, 2-trichloromethyl-5-[ $\beta$ -(2'-benzofuryl)vinyl]-1,3,4-oxadiazole 0.66 g, and solvents to form a 2.0 g/m<sup>2</sup> layer. Optimum exposure was 445 mJ. No stain was observed in its processing, and excellent reproduction of half-tone neg. images was shown.

IT 32169-90-7

(presensitized lithog. plates containing acid-generating  
 photolabile compound and)

RN 32169-90-7 HCAPLUS

CN Poly[imino(dimethylsilylene)] (8CI, 9CI) (CA INDEX NAME)

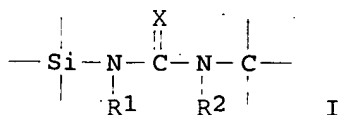


IC ICM G03C001-72  
ICS G03C001-72; G03F007-02  
CC 74-6 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)  
ST lithog plate **photosensitive** silicon contg; silicon nitrogen compd lithog plate  
IT Phenolic resins, uses and miscellaneous  
(**photosensitive** silicon-containing plates containing, for lithog. plate preparation)  
IT 35464-74-5, m-Cresol-p-cresol-formaldehyde-phenol copolymer  
(**photosensitive** silicon-containing plates containing, for lithog. plate preparation)  
IT 996-50-9 999-97-3 2587-46-4 30175-32-7 **32169-90-7**  
(presensitized lithog. plates containing acid-generating photolabile compound and)

L21 ANSWER 31 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 1987:587444 HCAPLUS  
DOCUMENT NUMBER: 107:187444  
TITLE: Photosolubilizable composition  
INVENTOR(S): Kamiya, Akihiko; Aoso, Toshiaki  
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 62059949	A2	19870316	JP 1985-200326	1985 0910
JP 05047097	B4	19930715	JP 1985-200326	1985 0910
PRIORITY APPLN. INFO.:				

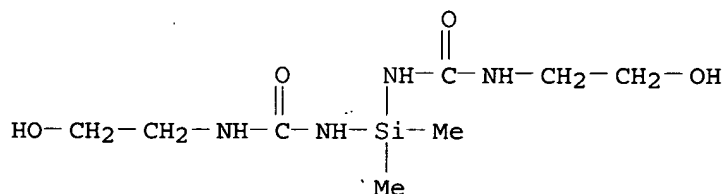
GI



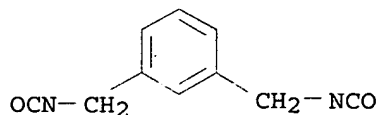
AB The claimed photosolubilizable composition contains a compound which

generates an acid upon exposure to actinic light and a compound having substructure I (R1 = H, alkyl, aryl; R2 = H, alkyl, aryl; X = S, O) whose solubility increases in the presence of the acid. The pos.-working **photosensitive** composition is especially useful for presensitized plates and as **photoresists**.

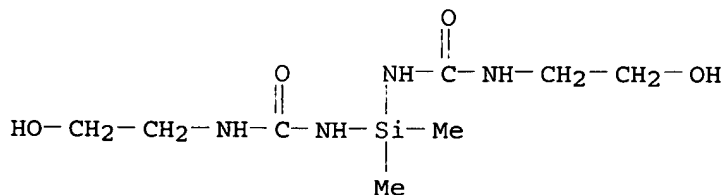
IT 110783-05-6P 110783-06-7P 110783-10-3P  
(preparation and use of, as **photosensitive** material)  
RN 110783-05-6 HCAPLUS  
CN Urea, N,N''-(dimethylsilylene)bis[N'-(2-hydroxyethyl)-, polymer with 1,3-bis(isocyanatomethyl)benzene (9CI) (CA INDEX NAME)  
CM 1  
CRN 110769-43-2  
CMF C8 H20 N4 O4 Si



CM 2  
CRN 3634-83-1  
CMF C10 H8 N2 O2

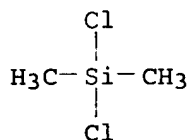


RN 110783-06-7 HCAPLUS  
CN Urea, N,N''-(dimethylsilylene)bis[N'-(2-hydroxyethyl)-, polymer with dichlorodimethylsilane (9CI) (CA INDEX NAME)  
CM 1  
CRN 110769-43-2  
CMF C8 H20 N4 O4 Si



CM 2

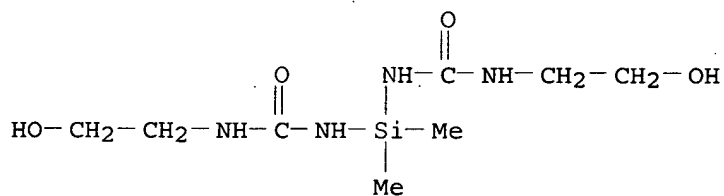
CRN 75-78-5  
CMF C2 H6 Cl2 Si



RN 110783-10-3 HCAPLUS  
CN Urea, N,N''-(dimethylsilylene)bis[N'-(2-hydroxyethyl)-, polymer with 1,3-bis(isocyanatomethyl)benzene and 2,2'-[oxybis(2,1-ethanediylloxy)]bis[ethanol] (9CI) (CA INDEX NAME)

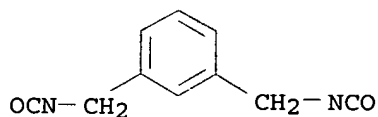
CM 1

CRN 110769-43-2  
CMF C8 H20 N4 O4 Si



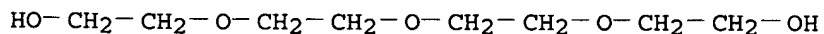
CM 2

CRN 3634-83-1  
CMF C10 H8 N2 O2



CM 3

CRN 112-60-7  
CMF C8 H18 O5



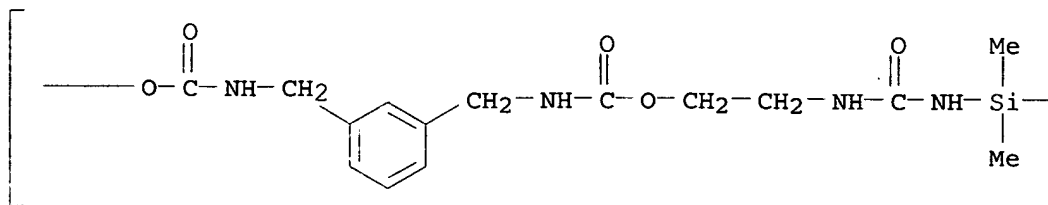
IT 110783-08-9P 110783-09-0P  
(preparation of)

RN 110783-08-9 HCAPLUS

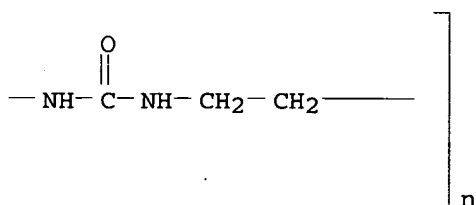
CN Poly[oxy-carbonyliminomethylene-1,3-phenylenemethyleneiminocarbonyl  
oxy-1,2-ethanediyliminocarbonylimino(dimethylsilylene)iminocarbonyl

limino-1,2-ethanediyl] (9CI) (CA INDEX NAME)

PAGE 1-A



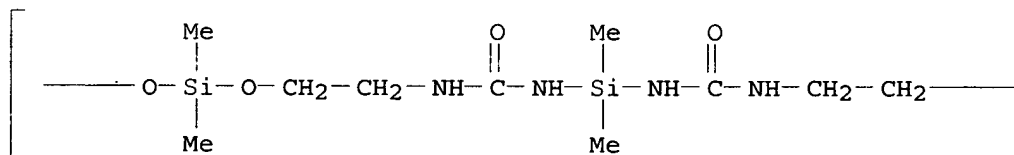
PAGE 1-B



RN 110783-09-0 HCAPLUS

CN Poly[oxy(dimethylsilylene)oxy-1,2-ethanediyliminocarbonylimino(dimethylsilylene)iminocarbonylimino-1,2-ethanediyl] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM G03C001-72

CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)

IT Polyethers, uses and miscellaneous  
Urethane polymers, uses and miscellaneous  
(**photosensitive** compns. containing)

IT Resists

(photo-, photosensitive resin compns. containing silylureido compound polymers as)

IT Lithographic plates  
(presensitized, photosensitive resin compns. containing silylureido compound polymers for)

IT 1328-54-7, Oil Blue 603 9016-83-5 36451-09-9  
(photosensitive resin compns. containing hydroxyethylureidosilane derivative polymer and)

IT 110783-05-6P 110783-06-7P 110783-10-3P  
(preparation and use of, as photosensitive material)

IT 110783-08-9P 110783-09-0P  
(preparation of)

L21 ANSWER 32 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1985:513359 HCAPLUS

DOCUMENT NUMBER: 103:113359

TITLE: Pattern-forming materials

PATENT ASSIGNEE(S): Japan Synthetic Rubber Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 60052845	A2	19850326	JP 1983-160259	1983 0902
JP 03044290	B4	19910705		
PRIORITY APPLN. INFO.:			JP 1983-160259	1983 0902

AB Pattern-forming materials which are sensitive toward light or ionizing radiation have, as the main constituents, a polymer containing a silyl group or groups and a compound which generates a cation or anion upon irradiation with light or ionizing radiation. The materials provide pos.- or neg.-working resists by selecting the developer solution and exhibit good dry-etch resistance. Thus, p-vinylphenoxy-tert-butyldimethylsilane prepared from 4-vinylphenol and tert-butyldimethylsilyl chloride was polymerized in the presence of BuLi to give a polymer. A resist containing the polymer and Ph<sub>3</sub>S+AsF<sub>6</sub><sup>-</sup> was coated on a Si wafer, patternwise irradiated with an ionizing radiation, and then developed with 2-PrOH to obtain pos. patterns showing high resolution

IT 85967-71-1

(resist compns. containing)

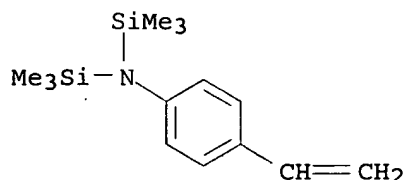
RN 85967-71-1 HCAPLUS

CN Silanamine, N-(4-ethenylphenyl)-1,1,1-trimethyl-N-(trimethylsilyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 85967-70-0

CMF C14 H25 N Si2



IC ICM G03C001-71  
ICS G03F007-10  
CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)  
ST light sensitive pattern forming material; ionizing radiation resist compn; silyl group polymer resist compn; cation generating compd resist compn; anion generating compd resist compn; **photoresist** silyl group polymer  
IT 84516-63-2 **85967-71-1** 88683-19-6  
(resist compns. containing)

L21 ANSWER 33 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1985:462429 HCAPLUS

DOCUMENT NUMBER: 103:62429

TITLE: Silicon-containing polymer: its plasma deposition and photolithographic processing

AUTHOR(S): Novotny, Zdenek

CORPORATE SOURCE: Electron. Res. Inst., TESLA, Prague, Czech.

SOURCE: Tesla Electronics (1984), 17(2), 56-8

CODEN: TNPTAQ; ISSN: 0563-1823

DOCUMENT TYPE: Journal

LANGUAGE: / English

AB Conventional etching equipment was used for fabrication of organosilicon polymer films using hexamethyldisilazane as the monomer. Freshly deposited films were air dried at 150° for 30 min, then overcoated with a AZ 1350 H pos. **photoresist** and plasma etched (CF<sub>4</sub> + O mixture, 30 Pa, power output 300 W) in the same apparatus in which the deposition took place. After this treatment the final polymer film was stable up to 300°.

IT 27495-70-1

(plasma deposition of films from, for lithog. processing)

RN 27495-70-1 HCAPLUS

CN Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, homopolymer (9CI)  
(CA INDEX NAME)

CM 1

CRN 999-97-3

CMF C6 H19 N Si2



CC 74-6 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)

IT 60650-38-6

(**photoresist**, in lithog. processing, plasma deposition of silicon-containing polymeric films in)

IT 27495-70-1

(plasma deposition of films from, for lithog. processing)

L21 ANSWER 34 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1985:430329 HCAPLUS  
 DOCUMENT NUMBER: 103:30329  
 TITLE: Photosolubilizable composition  
 INVENTOR(S): Aoai, Toshiaki  
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
 SOURCE: Eur. Pat. Appl., 60 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 130599	A2	19850109	EP 1984-107587	1984 0629
EP 130599	A3	19861015		
EP 130599	B1	19880810		
R: DE, FR, GB, NL				
JP 60010247	A2	19850119	JP 1983-117769	1983 0629
JP 04007502	B4	19920212		
JP 60037549	A2	19850226	JP 1983-146095	1983 0810
JP 03080298	B4	19911224		
JP 60121446	A2	19850628	JP 1983-230377	1983 1206
JP 05044664	B4	19930707		
US 4816375	A	19890328	US 1987-44161	1987 0430
US 4752552	A	19880621	US 1987-85230	1987 0812
PRIORITY APPLN. INFO.:			JP 1983-117769	A 1983 0629
			JP 1983-146095	A 1983 0810
			JP 1983-230377	A 1983 1206
			US 1984-625079	A3 1984 0627

OTHER SOURCE(S): CASREACT 103:30329  
 AB A pos.-working photoresist composition is described which is

useful for preparation of lithog. printing plates, proofs for multicolor printing, drawings for overhead projectors, integrated circuits, photomasks etc. The composition contains a compound capable of producing an acid when irradiated with actinic rays and compound having  $\geq 1$  silyl ether or ester group capable of being decomposed by this acid. Thus, an Al plate support was coated with a composition containing  $[(CH_2)_8OSiMe_2O]_n$  (number average mol. weight

1400-2000)

0.31, cresol-HCOH novolak resin 1, 1,2-naphthoquinone-2-diazido-4-sulfonyl chloride 0.05, Oil Blue 603 0.01, ethylene dichloride 10, the cellosolve 10 g, imagewise exposed and developed in aqueous DP-3B developer. The plate show high **photosensitivity**.

IT 96758-41-7P

(preparation and application of, for photosolubilizable imaging compns., for lithog. plate fabrication)

RN 96758-41-7 HCAPLUS

CN Formaldehyde, polymer with chlorotrimethylsilane, 3-methylphenol and 1,1,1-trimethyl-N-(trimethylsilyl)silanamine (9CI) (CA INDEX NAME)

CM 1

CRN 999-97-3

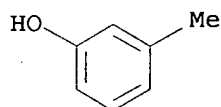
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 $Me_3Si-NH-SiMe_3$ 

CM 2

CRN 108-39-4

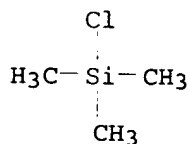
CMF C7 H8 O



CM 3

CRN 75-77-4

CMF C3 H9 Cl Si



CM 4

CRN 50-00-0

CMF C H2 O

 $H_2C=O$ 

IC ICM G03F007-10  
 CC 74-5 (Radiation Chemistry, **Photochemistry**, and  
**Photographic** and Other Reprographic Processes)  
 ST photosolubilizable imaging compn lithog plate; **photoresist**  
 pos compn silyl ether; photoimaging photosolubilizable compn silyl  
 ether; printing proof photosolubilizing compn; elec circuit  
 photosolubilizing compn; photomask lithog photosolubilizing compn  
 IT Lithographic plates  
 Photomasks  
 (photosolubilizable composition for preparation of, containing  
**photosensitive** acid-forming compound and compound containing  
 silyl ether or silyl ester group)  
 IT Electric circuits  
 Photoimaging compositions and processes  
 (photosolubilizable composition for, containing **photosensitive**  
 acid-forming compound and compound containing silyl ether or silyl  
 ester group)  
 IT Resists  
 (photo-, photosolubilizable composition for preparation of, containing  
**photosensitive** acid-forming compound and compound containing  
 silyl ether or silyl ester group)  
 IT 2078-12-8P 18105-31-2P **96758-41-7P** 96758-42-8P  
 (preparation and application of, for photosolubilizable imaging  
 compns., for lithog. plate fabrication)

L21 ANSWER 35 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1971:127562 HCAPLUS

DOCUMENT NUMBER: 74:127562

TITLE: Silane anthraquinone dyes for photo resist  
layersINVENTOR(S): Baptista, John L.; Rauner, Frederick J.; Ford,  
John A., Jr.

PATENT ASSIGNEE(S): Eastman Kodak Co.

SOURCE: Ger. Offen., 27 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

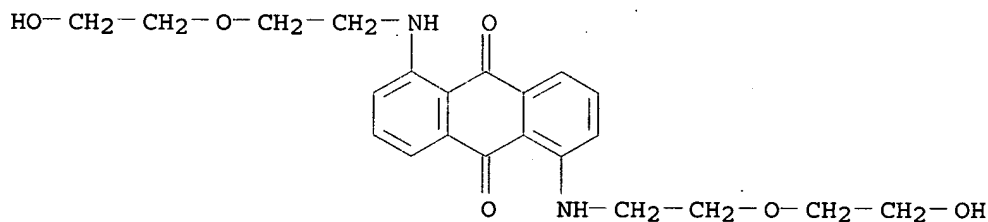
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

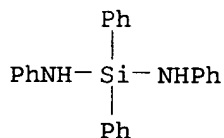
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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DE 2040831	A	19710325	DE 1970-2040831	1970 0817
US 3699135	A	19721017	US 1969-851046	1969 0818
FR 2058894	A5	19710528	FR 1970-30232	1970 0818
PRIORITY APPLN. INFO.:			US 1969-851046	A 1969

0818

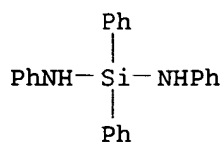
GI For diagram(s), see printed CA Issue.  
 AB Title compds. (I) consisting of II units were prepared from the corresponding bis(hydroxyethylamino)anthraquinones and  $\text{Ph}_2\text{SiR}_2$  ( $\text{R} = \text{NHPh}$ ,  $\text{OEt}$ , or  $\text{Cl}$ ). I were used in pos. **photoresist** layers to produce easier visible pictures of mostly bluish green shades. Thus, 1:1 molar  $\text{Ph}_2\text{Si}(\text{NHPh})_2$ -1,4-bis(2-hydroxyethylamino)-anthraquinone was stirred 4 hr at  $200^\circ/0.5$ -1 mm to give I ( $n = 1$ ), mol. weight .apprx.2000.  
 IT 31764-38-2P 31764-39-3P 31872-19-2P  
 (preparation of)  
 RN 31764-38-2 HCAPLUS  
 CN Anthraquinone, 1,5-bis[[2-(2-hydroxyethoxy)ethyl]amino]-, polymer with N,N',1,1-tetraphenylsilanedi-amine (8CI) (CA INDEX NAME)  
 CM 1  
 CRN 47647-07-4  
 CMF C22 H26 N2 O6



CM 2  
 CRN 15403-12-0  
 CMF C24 H22 N2 Si



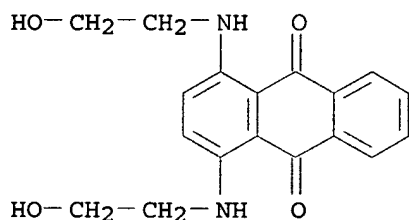
RN 31764-39-3 HCAPLUS  
 CN Anthraquinone, 1,4-bis[(2-hydroxyethyl)amino]-, polymer with N,N',1,1-tetraphenylsilanedi-amine (8CI) (CA INDEX NAME)  
 CM 1  
 CRN 15403-12-0  
 CMF C24 H22 N2 Si



CM 2

CRN 4471-41-4

CMF C18 H18 N2 O4



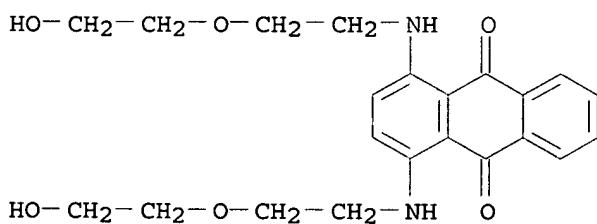
RN 31872-19-2 HCAPLUS

CN Anthraquinone, 1,4-bis[[2-(2-hydroxyethoxy)ethyl]amino]-, polymer with N,N',1,1-tetraphenylsilanedi-amine (8CI) (CA INDEX NAME)

CM 1

CRN 47645-63-6

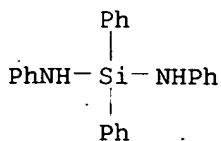
CMF C22 H26 N2 O6



CM 2

CRN 15403-12-0

CMF C24 H22 N2 Si



IC C09B; G03C

CC 40 (Dyes, Fluorescent Whitening Agents, and  
Photosensitizers)  
IT Photography, color  
(dyes for photoresist layers, polymeric derivs. of  
silane-containing anthraquinone compds. as)  
IT 31764-38-2P 31764-39-3P 31764-40-6P  
31764-41-7P 31872-19-2P 31872-20-5P 32075-63-1P  
32075-64-2P 32236-26-3P 32236-27-4P  
(preparation of)

## SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Sim J. Lee Examiner #: 76060 Date: 8-10-2005  
Art Unit: 1752 Phone Number 302-4333 Serial Number: 10/728,801  
Mail Box and Bldg/Room Location: Rem. (9D60) Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

\*\*\*\*\*

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc. if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Pat. App. B-6 AUG 10 REGO

Inventors (please provide full names): \_\_\_\_\_ Pat. &amp; T.M. Office \_\_\_\_\_

Earliest Priority Filing Date: \_\_\_\_\_

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search for the polysiloxazane  
having the ~~siloxane~~ repeat unit  
as listed in Cl. #4

~~CR 00000000~~

(any one of those 3 repeat  
units circled)

\*\*\*\*\*  
STAFF USE ONLY

	Type of Search	Vendors and cost where applicable
Searcher: <u>116La</u>	NA Sequence (#) _____	STN <u>209.17</u>
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) <u>2</u>	Questel/Orbit _____
Date Searcher Picked Up: <u>9/7/05</u>	Bibliographic _____	Dr. Link _____
Date Completed: <u>9/9/05</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: <u>40</u>	Fulltext _____	Sequence Systems _____
Clerical Prep Time: <u>30</u>	Patent Family _____	WWW/Internet _____
Online Time: <u>90</u>	Other _____	Other (specify) _____

Serial No. 10/728,801  
 Filed: December 8, 2003

### Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (canceled)
2. (canceled)
3. (canceled)
4. (currently amended) A The photosensitive polysilazane composition according to claim 1 wherein said polysilazane comprising a polysilazane or its modification product and a photoacid generator, wherein said polysilazane or its modification product is a polysiloxazane having a number average molecular weight of 300 to 100,000 that contains, as its main repeating unit,  $-(\text{RSi}(\text{NR}^6)_{1.5})-$ ,  $-(\text{RSi}(\text{NR}^6)\text{O}_{0.5})-$ ,  $-(\text{RSi}(\text{NR}^6)_{0.5}\text{O})-$ ,  $-(\text{RSiO}_{1.5})-$  or  $-(\text{SiO}_2)-$ , wherein R and R<sup>6</sup> respectively and independently represent a hydrogen atom, an alkyl group, an alkenyl group, a cycloalkyl group, an aryl group, an alkylamino group or an alkylsilyl group, and wherein  
said photoacid generator is at least one type of compound selected from the group consisting of a peroxide and a nitrobenzyl ester.
5. (currently amended) The photosensitive polysilazane composition according to claim 4 A photosensitive polysilazane composition comprising a polysilazane or its modification product and a photoacid generator, wherein said polysilazane or its modification product is  
a polysiloxazane having a number-average molecular weight of between 300 to 100,000 that contains, as its main repeating unit,  $-(\text{RSi}(\text{NR}^6)_{1.5})-$ ,  $-(\text{RSi}(\text{NR}^6)\text{O}_{0.5})-$ ,

=> fil reg

FILE 'REGISTRY' ENTERED AT 17:26:19 ON 08 SEP 2005

=> d his

FILE 'HCAPLUS' ENTERED AT 14:51:38 ON 08 SEP 2005

L1 2 S US20040081912/PN  
SEL RN

FILE 'REGISTRY' ENTERED AT 14:52:03 ON 08 SEP 2005

L2 14 S E1-E14

FILE 'LREGISTRY' ENTERED AT 15:03:31 ON 08 SEP 2005

L3 STR  
L4 STR

FILE 'REGISTRY' ENTERED AT 15:05:42 ON 08 SEP 2005

L5 SCR 2043  
L6 50 S (L3 OR L4) AND L5  
L7 50 S L3 AND L5  
L8 2233 S L3 AND L5 FUL  
SAV L8 LEE801/A  
L9 15 S L4 SAM SUB=L8  
L10 289 S L4 FUL SUB=L8  
L11 1944 S L8 NOT L10  
SAV L10 LEE801A/A  
SAV L10 LEE801B/A  
L12 5 S L11 AND L2

FILE 'HCAPLUS' ENTERED AT 16:47:58 ON 08 SEP 2005

L13 150 S L10  
L14 1313 S L11  
L15 16 S L13 AND PHOTO?/SC,SX  
L16 6 S L13 AND (PHOTOSENSIT? OR PHOTORESIST?)  
L17 16 S L15 OR L16  
L18 12 S L13 AND PHOTO?  
L19 20 S L17 OR L18  
L20 95 S L14 AND PHOTO?/SC,SX  
L21 35 S L20 AND (PHOTOSENSIT? OR PHOTORESIST?)  
L22 2 S L21 AND L1

=> d que l13

L3 STR

Si-^N  
1 2

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 2

STEREO ATTRIBUTES: NONE

L4 STR

O~Si~N  
3 1 2

NODE ATTRIBUTES:  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 3

STEREO ATTRIBUTES: NONE  
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L10 289 SEA FILE=REGISTRY SUB=L8 SSS FUL L4  
L13 150 SEA FILE=HCAPLUS ABB=ON PLU=ON L10

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FILE 'HCAPLUS' ENTERED AT 17:26:40 ON 08 SEP 2005

=> d l19 1-20 ibib abs hitstr hitind

L19 ANSWER 1 OF 20 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 2005:568624 HCAPLUS  
TITLE: Liquid crystal rear-view mirror with  
automatically brightness-regulating function  
for automobiles  
INVENTOR(S): Zhang, Guomin  
PATENT ASSIGNEE(S): Peop. Rep. China  
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu,  
No pp. given  
CODEN: CNXXEV  
DOCUMENT TYPE: Patent  
LANGUAGE: Chinese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
CN 1539677	A	20041027	CN 2003-10102211	2003 1027
PRIORITY APPLN. INFO.:			CN 2003-10102211	2003 1027

AB The title rear-view mirror is composed of LCD, photosensitive device, power supply and outer casing. The LCD consists of transparent flat glass board A and B, glass beads between them, and mixture of nematic liquid crystals with neg. dielec. anisotropy and pos. dichroic dye-doped liquid crystals that are sealed between the 2 boards. Transparent conducting layer, insulating layer and alignment layer are coated on the inner surface of board A, and Ag reflecting layer, transparent conducting layer and alignment layer are coated on the inner

surface of board B. The rear-view mirror has advantages of low drive voltage, high response speed to elec. field, wide visual angle and high contrast.

IT INDEXING IN PROGRESS

IT 862387-11-9P

(liquid crystal rear-view mirror with automatic brightness-control feature for automobiles)

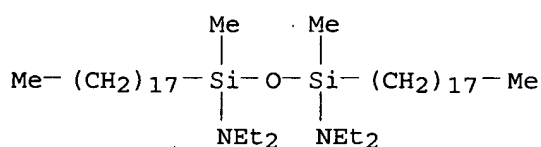
RN 862387-11-9 HCAPLUS

CN INDEX NAME NOT YET ASSIGNED

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CRN 862387-10-8

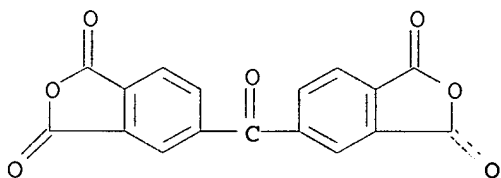
CMF C46 H100 N2 O Si2



CM 2

CRN 2421-28-5

CMF C17 H6 O7



IC ICM B60R001-02

ICS G02F001-13

CC 74-13 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)

Section cross-reference(s): 76

IT 862387-11-9P

(liquid crystal rear-view mirror with automatic brightness-control feature for automobiles)

L19 ANSWER 2 OF 20 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:58031 HCAPLUS

DOCUMENT NUMBER: 142:144349

TITLE: Active-matrix liquid crystal display

INVENTOR(S): Yoneya, Makoto; Iwasaki, Kishiro; Tomioka, Yasushi; Yokokura, Hisao; Kondo, Katsumi; Nagae, Yoshiharu

PATENT ASSIGNEE(S): Japan

SOURCE: U.S. Pat. Appl. Publ., 27 pp., Cont.-in-part of U.S. Ser. No. 812,773.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005012884	A1	20050120	US 2004-874375	2004 0624
US 5928733	A	19990727	US 1997-848453	1997 0508
US 6242060	B1	20010605	US 1999-281810	1999 0331
US 2001046569	A1	20011129	US 2001-812773	2001 0315
US 6756089	B2	20040629		
JP 2005189889	A2	20050714	JP 2005-70257	2005 0314
PRIORITY APPLN. INFO.:			JP 1996-113748	A 1996 0508
			JP 1996-159496	A 1996 0620
			JP 1996-221069	A 1996 0822
			JP 1996-269632	A 1996 1011
			US 1997-848453	A1 1997 0508
			US 1999-281810	A1 1999 0331
			US 2001-812773	A2 2001 0315
			JP 1997-117728	A3 1997 0508

AB An in-plane switching active-matrix liquid crystal display device includes an alignment layer which is a **photo-reactive** material layer disposed between a liquid crystal layer and at least one of a pair of substrates of the display device. The display device includes at least one of (a) a tilt angle of 3° or less, (b) an extrapolation length of at least 10% of a gap between

the pair of substrates, (c) a torsional anchoring coefficient A2 of an alignment layer surface for liquid crystal mols. at an inner face of the liquid crystal layer and the alignment layer which is not greater than 20  $\mu\text{N/m}$ , and (d) the alignment layer is obtained by using as an acid moiety an acid hydride except for benzophenone tetracarboxylic dianhydride.

IT 827307-63-1P 827307-69-7P

(alignment layer; active-matrix liquid crystal display containing)

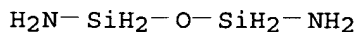
RN 827307-63-1 HCAPLUS

CN 1H-Cyclopenta[1,2-c:3,4-c']difuran-1,3,4,6(3aH)-tetrone, tetrahydro-, polymer with 1,3-disiloxanediamine, 1,12-dodecanediamine and 4,4'-methylenedibis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

CRN 71134-22-0

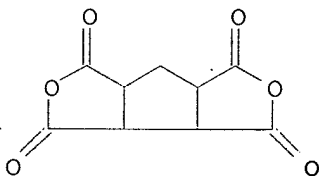
CMF H8 N2 O Si2



CM 2

CRN 6053-68-5

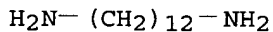
CMF C9 H6 O6



CM 3.

CRN 2783-17-7

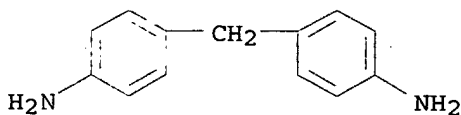
CMF C12 H28 N2



CM 4

CRN 101-77-9

CMF C13 H14 N2

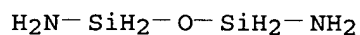


RN 827307-69-7 HCAPLUS  
 CN 1H-Cyclopenta[1,2-c:3,4-c']difuran-1,3,4,6(3aH)-tetrone,  
 tetrahydro-, polymer with 1,3-disiloxanediamine,  
 4,4'-methylenebis[benzenamine] and 4,4'-[[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis(4,1-phenyleneoxy)]bis[benzenamine]  
 (9CI) (CA INDEX NAME)

CM 1

CRN 71134-22-0

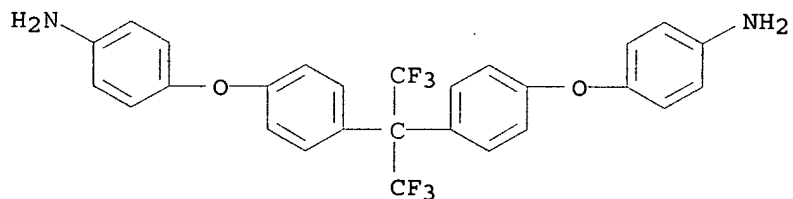
CMF H8 N2 O Si2



CM 2

CRN 69563-88-8

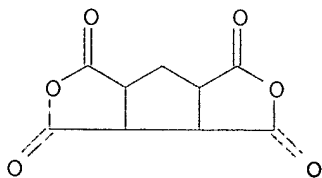
CMF C27 H20 F6 N2 O2



CM 3

CRN 6053-68-5

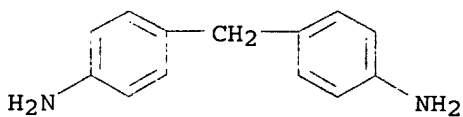
CMF C9 H6 O6



CM 4

CRN 101-77-9

CMF C13 H14 N2



IC ICM G02F001-1337  
INCL 349123000  
CC 74-13 (Radiation Chemistry, **Photochemistry**, and  
**Photographic** and Other Reprographic Processes)  
Section cross-reference(s): 35, 38  
IT 89-32-7DP, Pyromellitic acid dianhydride, polyamic acid  
101-77-9DP, 4,4'-Diamino-diphenylmethane, polyamic acid  
4415-87-6DP, 1,2,3,4-CycloButanetetracarboxylic acid dianhydride,  
polyamic acid 98043-56-2DP, polyamic acid 159964-36-0P,  
1,2,3,4-Butanetetracarboxylic acid dianhydride-  
decamethylenebis(trimellitic acid dianhydride-p-Phenylenediamine  
copolymer 199846-92-9P 199846-95-2P 199846-97-4P  
827307-63-1P 827307-65-3P 827307-67-5P  
827307-69-7P 827307-70-0P 827307-71-1DP, polyamic acid  
827307-72-2DP, polyamic acid  
(alignment layer; active-matrix liquid crystal display containing)

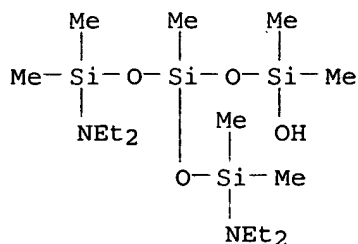
L19 ANSWER 3 OF 20 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 2002:868582 HCAPLUS  
DOCUMENT NUMBER: 138:137707  
TITLE: Synthesis and properties of amphiphilic  
hyperbranched poly(dimethylsiloxane)  
possessing hydrophilic terminal group  
AUTHOR(S): Kim, Kyung-Mee; Jikei, Mitsutoshi; Kakimoto,  
Masa-Aki  
CORPORATE SOURCE: Department of Organic and Polymeric Materials,  
Tokyo Institute of Technology, Tokyo,  
152-8552, Japan  
SOURCE: Polymer Journal (Tokyo, Japan) (2002), 34(10),  
755-760  
CODEN: POLJBB; ISSN: 0032-3896  
PUBLISHER: Society of Polymer Science, Japan  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB An amphiphilic hyperbranched polysiloxane having hydrophilic  
terminal groups was synthesized by reacting hyperbranched  
poly(dimethylsiloxane) (HPDMS) with a dimethylamino-functional  
end-capping agent, 4-bis(3-N,N-dimethylaminopropyl)methylsilylphen-  
yldimethylsilanol. The polymer exhibited low viscosity, and good  
solubility in di-Et ether, THF, and acidic aqueous solns. Micellization of  
hydrophobic chromophores, such as 1,6-diphenylhexatriene, with the  
amphiphilic HPDMS was studied in acidic aqueous solns. using UV-vis  
spectroscopy and **photoluminescence** spectroscopy. It was  
found that a HPDMS mol. solubilized about five mols. of  
1,6-diphenylhexatriene.

IT 492440-58-1DP, reaction products with  
bis(dimethylaminopropyl)methylsilylphenyldimethylsilanol  
(hyperbranched; amphiphilic hyperbranched  
poly(dimethylsiloxane) with hydrophilic terminal groups)  
RN 492440-58-1 HCAPLUS  
CN 1-Trisiloxanol, 5-(diethylamino)-3-[[[(diethylamino)dimethylsilyl]oxy]-1,1,3,5,5-pentamethyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 442851-10-7  
CMF C15 H42 N2 O4 Si4



CC 35-8 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 36

IT 142754-49-2DP, reaction products with hyperbranched poly(dimethylsiloxane) **492440-58-1DP**, reaction products with bis(dimethylaminopropyl)methylsilylphenyldimethylsilanol (hyperbranched; amphiphilic hyperbranched poly(dimethylsiloxane) with hydrophilic terminal groups)

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 4 OF 20 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:796542 HCAPLUS

DOCUMENT NUMBER: 135:350633

TITLE: Optical recording medium having reflection layer made of silver or silver alloy and method for manufacture thereof

INVENTOR(S): Ito, Mitsuru; Nagataki, Yoshiyuki; Sakurai, Yuichi; Takasawa, Koji

PATENT ASSIGNEE(S): Hitachi Maxell, Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001307379	A2	20011102	JP 2000-122345	2000 0424

PRIORITY APPLN. INFO.: JP 2000-122345

2000  
0424

AB The title recording medium has a recording layer containing a dye and a reflection layer made of Ag or Ag alloy on a substrate, wherein a siloxane derivative is disposed between a substrate and a reflection layer. The recording medium, which has the aforementioned siloxane between the reflection layer and a substrate, shows little deterioration of the usage or storage under high temperature and high humidity.

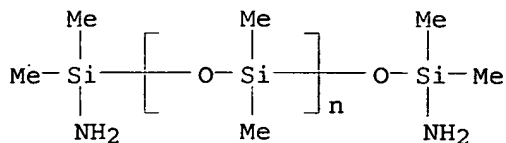
IT 163002-36-6

(optical recording medium having reflection layer made of silver or silver alloy and method for manufacture thereof)

RN 163002-36-6 HCAPLUS

CN Poly[oxy(dimethylsilylene)],  $\alpha$ -(aminodimethylsilyl)- $\omega$ -

[(aminodimethylsilyl)oxy]- (9CI) (CA INDEX NAME)



IC ICM G11B007-24  
 ICS G11B007-24; G11B007-26  
 CC 74-12 (Radiation Chemistry, **Photochemistry**, and  
**Photographic** and Other Reprographic Processes)  
 IT 26403-67-8, Methylsilanediol homopolymer SRU, trimethylsilyl-  
 terminated 31692-79-2 31900-57-9D, DiMethylsilanediol  
 homopolymer, disilyl ether terminated 42557-10-8,  
 Poly(dimethylsiloxane) SRU, trimethylsilyl-terminated  
 49718-23-2D, Methylsilanediol homopolymer, disilyl ether  
 terminated 156824-22-5 **163002-36-6** 371961-22-7  
 371961-23-8 371961-24-9 371966-10-8  
 (optical recording medium having reflection layer made of  
 silver or silver alloy and method for manufacture thereof)

L19 ANSWER 5 OF 20 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:40007 HCAPLUS

DOCUMENT NUMBER: 134:101972

TITLE: Oxygen-enriching film membrane of crosslinked  
 siloxane-oligooxyalkylene alternating  
 copolymers

INVENTOR(S): Kato, Masao; Nagasaki, Yukio; Funaoka,  
 Shinichiro; Aoki, Hidetoshi; Hirakawa, Naoki;  
 Tokuda, Takashi

PATENT ASSIGNEE(S): Hokushin Kogyo K. K., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001009249	A2	20010116	JP 1999-184176	1999 0629

PRIORITY APPLN. INFO.: JP 1999-184176

1999  
0629

AB The membranes comprise crosslinked polymers having  
 [(CH<sub>2</sub>CR<sub>n</sub>HO)<sub>xn</sub>(SiSnTnO)<sub>yn</sub>]<sub>ln</sub> units [R<sub>n</sub> = C1-5 alkyl, aryl, aralkyl;  
 Sn, Tn = H, OH, C1-7 alkoxy, phenoxy, C1-10 (halogenated) alkyl,  
 (halogenated) aryl, aralkyl, etc.; S1, S2...Sn are different; T1,  
 T2....Tn are different; n = 1-10; xn = 1-50; yn = 1-10; ln = mol  
 ratio (mol%); l1 + l2 + ....ln = 100 mol%]. Thus, an alternating  
 copolymer of diethylene glycol 4.68, 1,3-bis(diethylamino)-1,1,3,3-  
 tetramethyldisiloxane 9.77, and bis(diethylamino)divinylsilane  
 1.99 g was mixed with 2,2-dimethoxy-2-phenylacetophenone and

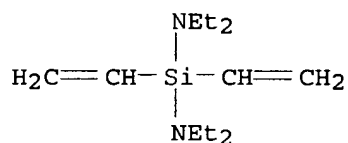
pentaerythritol tetrakis(3-mercaptopropionate) and photocrosslinked to give a 680- $\mu$ m membrane with O/N permselectivity 3.08.

IT 319927-25-8P 319927-26-9P 319927-27-0P  
 (oxygen-enriching film membrane of crosslinked siloxane-oligooxyalkylene alternating copolymers)  
 RN 319927-25-8 HCAPLUS  
 CN Propanoic acid, 3-mercapto-, 2,2-bis[(3-mercapto-1-oxopropoxy)methyl]-1,3-propanediyl ester, polymer with 1,1-diethenyl-N,N,N',N'-tetraethylsilanedi-amine, 2,2'-oxybis[ethanol] and N,N,N',N'-tetraethyl-1,1,3,3-tetramethyl-1,3-disiloxanedi-amine (9CI) (CA INDEX NAME)

CM 1

CRN 127410-30-4

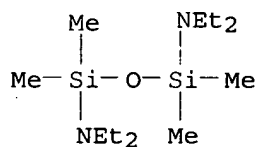
CMF C12 H26 N2 Si



CM 2

CRN 14759-97-8

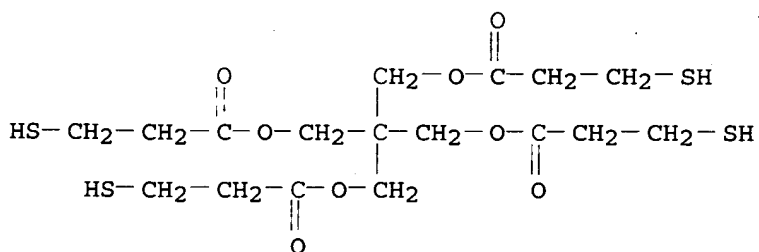
CMF C12 H32 N2 O Si2



CM 3

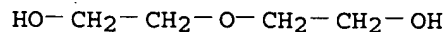
CRN 7575-23-7

CMF C17 H28 O8 S4



CM 4

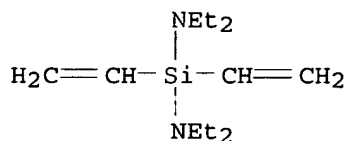
CRN 111-46-6  
CMF C4 H10 O3



RN 319927-26-9 HCAPLUS  
CN Propanoic acid, 3-mercapto-, 2,2-bis[(3-mercapto-1-oxopropoxy)methyl]-1,3-propanediyl ester, polymer with 1,1-diethenyl-N,N,N',N'-tetraethylsilanediamine, 2,2'-[oxybis(2,1-ethanediylloxy)]bis[ethanol] and N,N,N',N'-tetraethyl-1,1,3,3-tetramethyl-1,3-disiloxanediamine (9CI) (CA INDEX NAME)

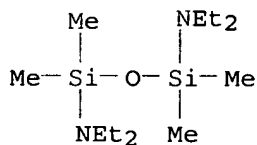
CM 1

CRN 127410-30-4  
CMF C12 H26 N2 Si



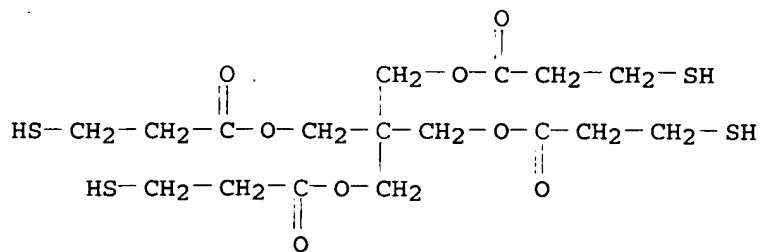
CM 2

CRN 14759-97-8  
CMF C12 H32 N2 O Si2



CM 3

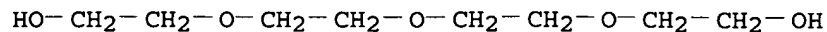
CRN 7575-23-7  
CMF C17 H28 O8 S4



CM 4

CRN 112-60-7

CMF C8 H18 O5



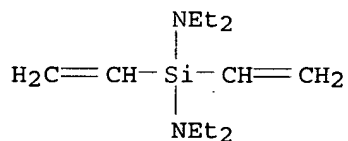
RN 319927-27-0 HCAPLUS

CN Propanoic acid, 3-mercapto-, 2,2-bis[(3-mercapto-1-oxopropoxy)methyl]-1,3-propanediyl ester, polymer with 1,1-diethenyl-N,N,N',N'-tetraethylsilanediamine,  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) and N,N,N',N'-tetraethyl-1,1,3,3-tetramethyl-1,3-disiloxanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 127410-30-4

CMF C12 H26 N2 Si

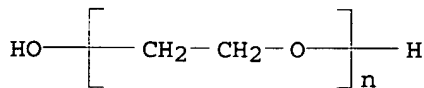


CM 2

CRN 25322-68-3

CMF (C2 H4 O)<sub>n</sub> H2 O

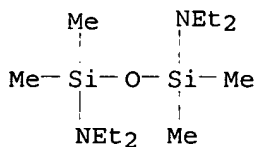
CCI PMS



CM 3

CRN 14759-97-8

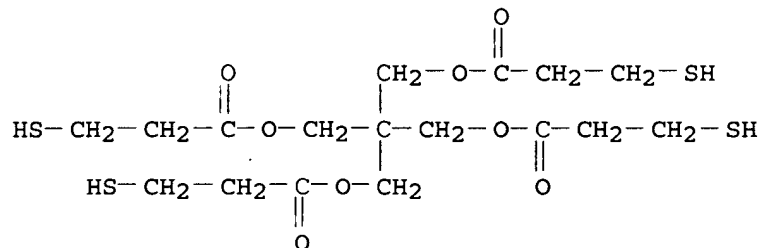
CMF C12 H32 N2 O Si2



CM 4

CRN 7575-23-7

CMF C17 H28 O8 S4



IT 216020-64-3P 216020-66-5P 216020-70-1P

(oxygen-enriching film membrane of crosslinked  
siloxane-oligooxyalkylene alternating copolymers)

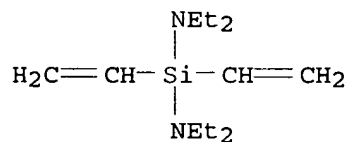
RN 216020-64-3 HCAPLUS

CN 1,3-Disiloxanediamine, N,N,N',N'-tetraethyl-1,1,3,3-tetramethyl-,  
polymer with 1,1-diethenyl-N,N,N',N'-tetraethylsilanediamine and  
 $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) (9CI) (CA  
INDEX NAME)

CM 1

CRN 127410-30-4

CMF C12 H26 N2 Si

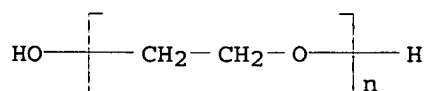


CM 2

CRN 25322-68-3

CMF (C2 H4 O)<sub>n</sub> H2 O

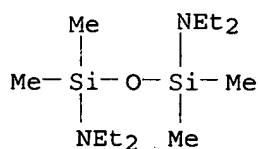
CCI PMS



CM 3

CRN 14759-97-8

CMF C12 H32 N2 O Si2



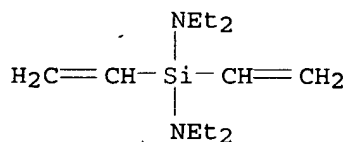
RN 216020-66-5 HCAPLUS

CN 1,3-Disiloxanedi-amine, N,N,N',N'-tetraethyl-1,1,3,3-tetramethyl-, polymer with 1,1-diethenyl-N,N,N',N'-tetraethylsilanedi-amine and 2,2'-[oxybis(2,1-ethanedi-oxo)]bis[ethanol] (9CI) (CA INDEX NAME)

CM 1

CRN 127410-30-4

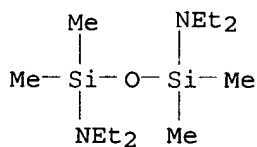
CMF C12 H26 N2 Si



CM 2

CRN 14759-97-8

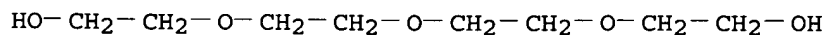
CMF C12 H32 N2 O Si2



CM 3

CRN 112-60-7

CMF C8 H18 O5



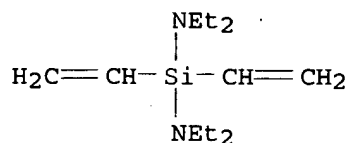
RN 216020-70-1 HCAPLUS

CN 1,3-Disiloxanedi-amine, N,N,N',N'-tetraethyl-1,1,3,3-tetramethyl-, polymer with 1,1-diethenyl-N,N,N',N'-tetraethylsilanedi-amine and 2,2'-oxybis[ethanol] (9CI) (CA INDEX NAME)

CM 1

CRN 127410-30-4

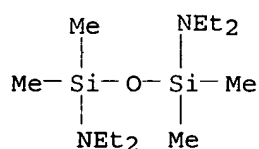
CMF C12 H26 N2 Si



CM 2

CRN 14759-97-8

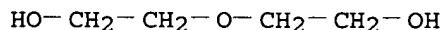
CMF C12 H32 N2 O Si2



CM 3

CRN 111-46-6

CMF C4 H10 O3



IC ICM B01D071-70  
ICS C08G075-04; G02C007-04; C08G077-46; C08J005-18  
CC 38-3 (Plastics Fabrication and Uses)  
IT 319927-25-8P 319927-26-9P 319927-27-0P  
(oxygen-enriching film membrane of crosslinked  
siloxane-oligooxyalkylene alternating copolymers)  
IT 216020-64-3P 216020-66-5P 216020-70-1P  
(oxygen-enriching film membrane of crosslinked  
siloxane-oligooxyalkylene alternating copolymers)

L19 ANSWER 6 OF 20 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:861932 HCAPLUS

DOCUMENT NUMBER: 134:30180

TITLE: Method for forming polyimide pattern using  
photosensitive polyimide compositionINVENTOR(S): Itatani, Hiroshi; Matsumoto, Shunichi;  
Itatani, Tarou; Sakamoto, Tsunenori;  
Gorwadkar, Sucheta; Komuro, Masanori

PATENT ASSIGNEE(S): PI R and D Co., Ltd., Japan

SOURCE: PCT Int. Appl., 38 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.

KIND

DATE

APPLICATION NO.

DATE

PRIORITY APPLN. INFO.:

IT

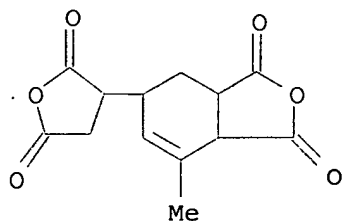
RN

CN

CM 1

CRN 73003-90-4

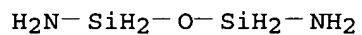
CMF C13 H12 O6



CM 2

CRN 71134-22-0

CMF H8 N2 O Si2



CM 3

CRN 21587-74-6

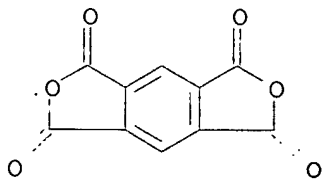
CMF C13 H26 N2 O4



CM 4

CRN 89-32-7

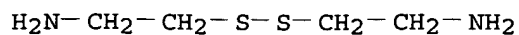
CMF C10 H2 O6



CM 5

CRN 51-85-4

CMF C4 H12 N2 S2



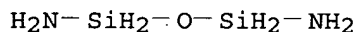
RN 311773-11-2 HCAPLUS

CN 4,8-Etheno-1H,3H-benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone,  
3a,4,4a,7a,8,8a-hexahydro-, polymer with 1,3-  
cyclohexanedimethanamine, 1,3-disiloxanediamine,  
2,2'-dithiobis[ethanamine] and rel-(3aR,3bS,6aS,7aR)-tetrahydro-1H-  
cyclopenta[1,2-c:3,4-c']difuran-1,3,4,6(3aH)-tetrone (9CI) (CA  
INDEX NAME)

CM 1

CRN 71134-22-0

CMF H8 N2 O Si2

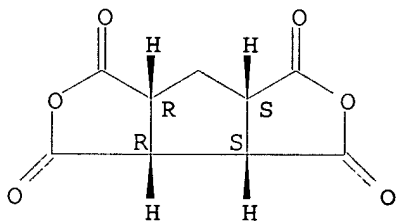


CM 2

CRN 4802-47-5

CMF C9 H6 O6

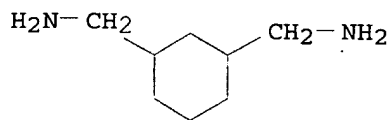
Relative stereochemistry.



CM 3

CRN 2579-20-6

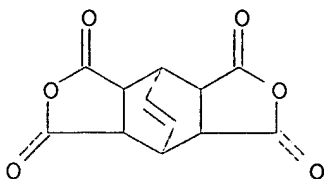
CMF C8 H18 N2



CM 4

CRN 1719-83-1

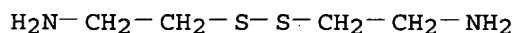
CMF C12 H8 O6



CM 5

CRN 51-85-4

CMF C4 H12 N2 S2



- IC G03F007-037; C08G073-10; C08L079-08  
 CC 38-3 (Plastics Fabrication and Uses)  
 Section cross-reference(s): 37, 73, 74  
 ST polyimide **photosensitive** compn pattern prepn  
 IT Electron beams  
 Negative **photoresists**  
 Optical materials  
**Photolithography**  
 Polymerization  
 Polymerization catalysts  
 Positive **photoresists**  
 (method for forming polyimide pattern using  
**photosensitive** polyimide composition)  
 IT Polyimides, uses  
 (method for forming polyimide pattern using  
**photosensitive** polyimide composition)  
 IT Polyimides, uses  
 (polyamine-; method for forming polyimide pattern using  
**photosensitive** polyimide composition)  
 IT Polysiloxanes, uses  
 (polyamine-polycarbosilane-polyimide-; method for forming  
 polyimide pattern using **photosensitive** polyimide  
 composition)  
 IT Polyimides, uses  
 (polyamine-polycarbosilane-polysiloxane-; method for forming  
 polyimide pattern using **photosensitive** polyimide  
 composition)  
 IT Polycarbosilanes  
 (polyamine-polyimide-polysiloxane-; method for forming  
 polyimide pattern using **photosensitive** polyimide  
 composition)  
 IT Polysiloxanes, uses  
 (polycarbosilane-polyimide-; method for forming polyimide  
 pattern using **photosensitive** polyimide composition)  
 IT Polyamines  
 (polycarbosilane-polyimide-polysiloxane-; method for forming  
 polyimide pattern using **photosensitive** polyimide  
 composition)  
 IT Polyimides, uses  
 (polycarbosilane-siloxane-; method for forming polyimide  
 pattern using **photosensitive** polyimide composition)

IT Polyamines  
Polysulfides  
(polyimide-; method for forming polyimide pattern using  
**photosensitive** polyimide composition)

IT Polysiloxanes, uses  
(polyimide-polysulfide-; method for forming polyimide pattern  
using **photosensitive** polyimide composition)

IT Polycarbosilanes  
Polysulfides  
(polyimide-siloxane-; method for forming polyimide pattern  
using **photosensitive** polyimide composition)

IT Polyimides, uses  
(polysulfide-; method for forming polyimide pattern using  
**photosensitive** polyimide composition)

IT Polyimides, uses  
(polysulfide-siloxane-; method for forming polyimide pattern  
using **photosensitive** polyimide composition)

IT 108-29-2 109-02-4 110-86-1, Pyridine, uses  
(catalyst; method for forming polyimide pattern using  
**photosensitive** polyimide composition)

IT 311773-04-3P 311773-05-4P 311773-06-5P 311773-07-6P  
311773-08-7P 311773-09-8P 311773-10-1P 311773-11-2P  
311773-12-3P 311773-13-4P 311773-14-5P  
(method for forming polyimide pattern using  
**photosensitive** polyimide composition)

IT 51-85-4P  
(monomer; method for forming polyimide pattern using  
**photosensitive** polyimide composition)

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L19 ANSWER 7 OF 20 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:645228 HCAPLUS

DOCUMENT NUMBER: 134:194220

TITLE: Remarkable AO resistance of POSS  
inorganic/organic polymers

AUTHOR(S): Phillips, Shawn H.; Gonzalez, Rene I.;  
Chaffee, Kevin P.; Haddad, Timothy S.;  
Hoflund, Gar B.; Hsiao, Benjamin S.; Fu, Bruce  
X.

CORPORATE SOURCE: Edwards Air Force Research Laboratory, Edwards  
AFB, CA, 93524-7680, USA

SOURCE: International SAMPE Symposium and Exhibition  
(2000), 45(Bridging the Centuries with SAMPE's  
Materials and Processes Technology, Book 2),  
1921-1932

CODEN: ISSEEG; ISSN: 0891-0138

PUBLISHER: Society for the Advancement of Material and  
Process Engineering

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Polymeric materials offer many advantages for Low Earth Orbit  
applications including ease of processing and reduced  
payload-to-orbit costs from the reduction in weight. However, currently  
applied materials are limited by their severe degradation as a result  
of atomic oxygen (AO) impingement, vacuum-UV irradiation and thermal  
cycling. The Air Force Research Laboratory has dramatically improved  
polymer properties through the incorporation of hybrid organic/inorg.  
POSS (Polyhedral Oligomeric Silsesquioxane). The POSS frameworks

are comprised of a three dimensional inorg. core with a 3:2 O-Si ratio, surrounded by tailorable organic groups. POSS incorporation results in increased use and decomposition temps., improved mech. properties, and oxidation resistance. Results of flammability and char motor tests have shown the rapid formation of a ceramic SiO<sub>2</sub> layer, making the hybrid POSS-polymers potential candidates as space resistant materials. This paper reports on the AO resistance of POSS-PDMS and POSS-polyurethanes, with the data obtained using a unique high-purity AO source coupled with in situ XPS. Exptl. results show the rapid formation of a passivating SiO<sub>2</sub> layer, which is known to be self-annealing in the presence of VUV radiation. Discussions will be centered on the synthesis of the hybrid POSS polymers, AO testing and subsequent material characterization.

IT 146985-78-6

(remarkable atomic-oxygen resistance of polyhedral oligomeric silsesquioxane inorg./organic polymers)

RN 146985-78-6 HCAPLUS

CN Tetracyclo[7.7.1.13,13,15,11]octasiloxane-7,15-diol, 1,3,5,7,9,11,13,15-octacyclohexyl-, (1R,3S,5R,7S,9R,11S,13R,15S)-rel-, polymer with N,N,N',N',1,1,3,3,5,5,7,7-dodecamethyl-1,7-tetrasiloxanediimine (9CI) (CA INDEX NAME)

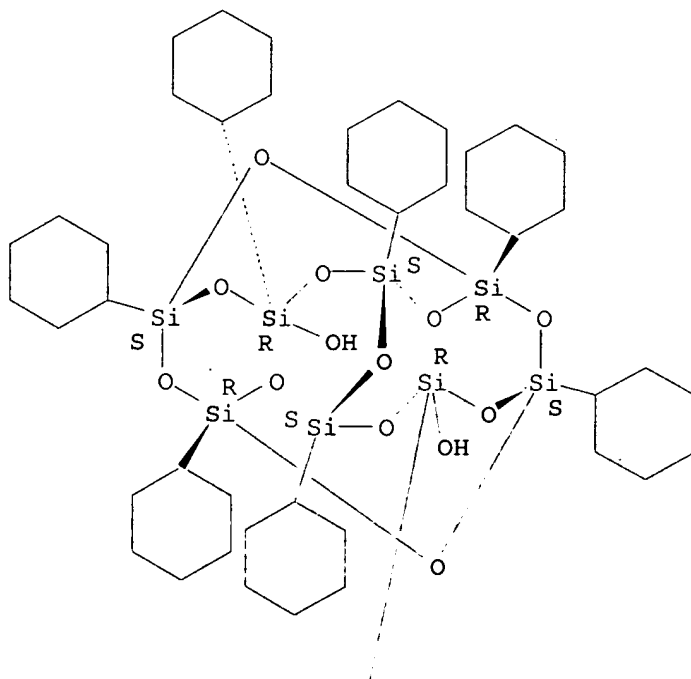
CM 1

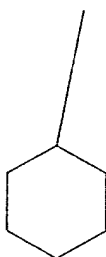
CRN 118868-45-4

CMF C48 H90 O13 Si8

Relative stereochemistry.

PAGE 1-A



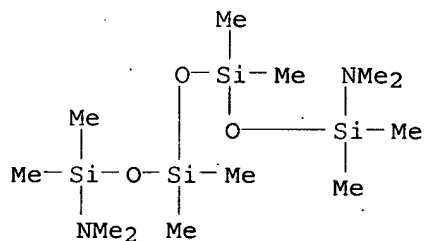


PAGE 2-A

CM 2

CRN 83578-97-6

CMF C12 H36 N2 O3 Si4



CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 37

IT Surface composition

Surface structure

X-ray photoelectron spectra

(remarkable atomic-oxygen resistance of polyhedral oligomeric silsesquioxane inorg./organic polymers)

IT 118868-45-4D, polymers with dimethylamine-terminated siloxanes

146985-75-3 146985-78-6 268747-52-0

(remarkable atomic-oxygen resistance of polyhedral oligomeric silsesquioxane inorg./organic polymers)

REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L19 ANSWER 8 OF 20 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:271577 HCAPLUS

DOCUMENT NUMBER: 130:289209

TITLE: Polyimide composition for positive photoresist

INVENTOR(S): Itatani, Hiroshi; Matsumoto, Shunichi

PATENT ASSIGNEE(S): PI R &amp; D Co., Ltd., Japan

SOURCE: PCT Int. Appl., 112 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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USHA SHRESTHA EIC 1700 REM 4B28

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WO 9919771          A1      19990422      WO 1998-JP4577
                                           1998
                                           1012

      W:  CN, JP, KR, US
      RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU,
           MC, NL, PT, SE
EP 1024407          A1      20000802      EP 1998-947813
                                           1998
                                           1012

      R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
           MC, PT, IE, FI
US 6627377          B1      20030930      US 2000-529382
                                           2000
                                           0626

PRIORITY APPLN. INFO.:
                                JP 1997-315781      A
                                           1997
                                           1013

                                JP 1997-320266      A
                                           1997
                                           1016

                                JP 1997-353987      A
                                           1997
                                           1117

                                JP 1997-353988      A
                                           1997
                                           1117

                                JP 1997-363044      A
                                           1997
                                           1125

                                JP 1997-363045      A
                                           1997
                                           1125

                                JP 1997-363378      A
                                           1997
                                           1126

                                JP 1997-365491      A
                                           1997
                                           1202

                                JP 1997-370187      A
                                           1997
                                           1222

                                JP 1998-31933        A
                                           1998
                                           0105

                                JP 1998-108410      A
                                           1998
                                           0316

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JP 1997-352987 A  
1997  
1117

WO 1998-JP4577 W  
1998  
1012

AB A **photosensitive** polyimide composition is soluble in organic solvents, excellent in adhesiveness, heat resistance, mech. characteristics and flexibility, and is capable of exhibiting alkali-soluble, highly sensitive pos. **photoresist** characteristics upon irradiation with light. The composition comprises a **photo-acid** generator and a solvent soluble polyimide exhibiting pos. **photosensitivity** in the presence of the generator.

IT 222843-06-3P, 3,4,3',4'-Biphenyltetracarboxylic acid dianhydride-3,4,3',4'-benzophenonetetracarboxylic acid dianhydride-2,4-diaminotoluene-diaminosiloxane-3,4-diaminodiphenyl ether-2,2-bis[4-(4-aminophenoxy)phenyl]hexafluoropropane block copolymer  
(polyimide composition for pos. **photoresist**)

RN 222843-06-3 HCAPLUS

CN [5,5'-Biisobenzofuran]-1,1',3,3'-tetrone, polymer with 5,5'-carbonylbis[1,3-isobenzofurandione], 1,3-disiloxanediamine, 4-methyl-1,3-benzenediamine, 4,4'-oxybis[1,2-benzenediamine] and 4,4'-[[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis(4,1-phenyleneoxy)]bis[benzenamine], block (9CI) (CA INDEX NAME)

CM 1

CRN 71134-22-0

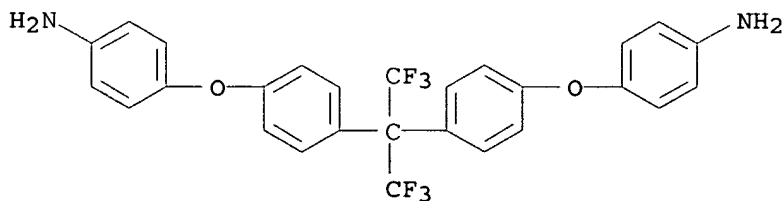
CMF H8 N2 O Si2

$\text{H}_2\text{N}-\text{SiH}_2-\text{O}-\text{SiH}_2-\text{NH}_2$

CM 2

CRN 69563-88-8

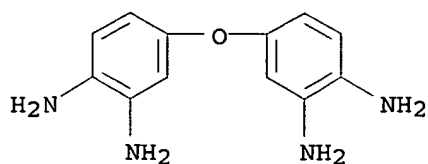
CMF C27 H20 F6 N2 O2



CM 3

CRN 2676-59-7

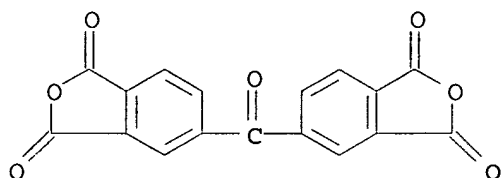
CMF C12 H14 N4 O



CM 4

CRN 2421-28-5

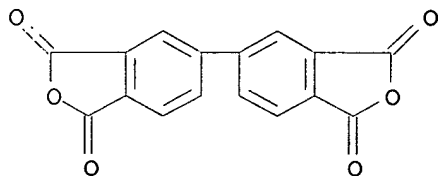
CMF C17 H6 O7



CM 5

CRN 2420-87-3

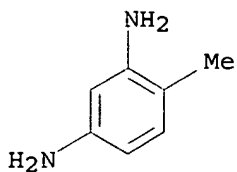
CMF C16 H6 O6



CM 6

CRN 95-80-7

CMF C7 H10 N2



IC ICM G03F007-039

ICS G03F007-022; G03F007-004; C08L079-08; C09D179-08; C08G073-10;  
H05K003-28; H05K003-46; H01L021-027CC 74-5 (Radiation Chemistry, **Photochemistry**, and  
**Photographic** and Other Reprographic Processes)  
Section cross-reference(s): 35

ST polyimide compn pos photoresist  
 IT Positive photoresists  
     (polyimide composition for pos. photoresist)  
 IT Polyimides, uses  
     (polyimide composition for pos. photoresist)  
 IT 15499-84-0P  
     (polyimide composition for pos. photoresist)  
 IT 80180-96-7P, 3,3',4,4'-Benzophenonetetracarboxylic  
 dianhydride-2,4-diaminotoluene-3,3'-dimethoxy-4,4'-diaminobiphenyl  
 copolymer 87182-96-5P, 2,2-Bis[4-(4-aminophenoxy)phenyl]hexafluoropropane-4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis(1,2-benzenedicarboxylic acid dianhydride) copolymer 134096-63-2P 144279-09-4P  
 162735-41-3P 177190-29-3P 177190-34-0P 186967-17-9P  
 222842-97-9P, 3,4,3',4'-Biphenyltetracarboxylic acid dianhydride-2,2-bis[4-(4-aminophenoxy)phenyl]propane-2,3-diaminodiphenyl ether copolymer 222843-01-8P  
 222843-06-3P, 3,4,3',4'-Biphenyltetracarboxylic acid dianhydride-3,4,3',4'-benzophenonetetracarboxylic acid dianhydride-2,4-diaminotoluene-diaminosiloxane-3,4-diaminodiphenyl ether-2,2-bis[4-(4-aminophenoxy)phenyl]hexafluoropropane block copolymer 222843-27-8P, m-BAPS-3,4,3',4'-benzophenonetetracarboxylic acid dianhydride-9,9-bis(4-aminophenyl)fluorene-3,4,3',4'-Biphenyltetracarboxylic acid dianhydride-3,5-diaminobenzoic acid block copolymer 222843-32-5P  
 222843-36-9P, 3,4,3',4'-Benzophenonetetracarboxylic Acid Dianhydride-4,4'-diaminodiphenylsulfide-3,4,3',4'-biphenyl tetracarboxylic Acid Dianhydride-3,3'-dihydroxybenzidine-m-BAPS block copolymer 222843-50-7P 222843-56-3P 222843-63-2P  
 222843-70-1P 222843-77-8P 222843-82-5P 222843-88-1P  
 222843-94-9P 222843-98-3P 222844-05-5P 222844-10-2P  
 222844-17-9P 222844-25-9P 222844-32-8P 222844-44-2P  
 222844-51-1P 222844-59-9P 222844-67-9P 222844-73-7P,  
 3,3',4,4'-Biphenyltetracarboxylic dianhydride; diaminosilane;  $\gamma$ -valerolactone; 3,4,3',4'-benzophenonetetracarboxylic dianhydride; 3,3'-dihydroxy-4,4'-diaminobiphenyl; 3,4'-diaminodiphenyl ether block copolymer 222844-82-8P  
 222844-87-3P 222844-93-1P 222844-96-4P 222845-03-6P  
 222845-07-0P, 3,3',4,4'-Benzophenonetetracarboxylic acid dianhydride-3,3'-dinitro-4,4'-diaminodiphenyl-bis[4-(3-aminophenyl)phenyl]sulfone copolymer 222845-11-6P 222845-17-2P  
 222845-23-0P 222845-26-3P 222845-32-1P 222845-38-7P,  
 3,3',4,4'-Biphenyltetracarboxylic acid anhydride-1,5-diaminoanthraquinone-2,2-bis[4-(3-aminophenoxy)phenyl]propane copolymer 222845-43-4P 222845-53-6P 222845-58-1P  
 222845-63-8P 222845-68-3P, 3,3',4,4'-Benzophenonetetracarboxylic acid dianhydride-1,4-bis(3-aminopropyl)piperazine-bis[4-(3-aminophenoxy)phenyl]sulfone copolymer 222845-73-0P  
 222845-77-4P 222845-83-2P 222845-89-8P 222845-95-6P  
 222846-01-7P 222846-08-4P 222846-13-1P 222846-18-6P  
 222846-23-3P, 3,3',4,4'-Biphenyltetracarboxylic acid dianhydride-bis-4-(3-aminophenoxy)phenylsulfone-2,2-bis-[4-(3-aminophenoxy)phenyl]hexafluoropropane copolymer 222846-30-2P  
 222846-54-0P 222846-63-1P 222846-79-9P 222846-83-5P  
 222846-88-0P, 3,4,3',4'-Biphenyltetracarboxylic acid dianhydride-2,2-ditrifluoromethylbenzidine-2,2-bis[4-(4-aminophenoxy)phenyl]propane-3,5-diaminobenzoic acid block copolymer 222846-93-7P  
     (polyimide composition for pos. photoresist)  
 IT 86-73-7, Fluorene

(polyimide composition for pos. photoresist)  
 IT 83803-86-5 222843-16-5, m-BAPS-3,3'-dimethylbenzidine-4,4'-  
 [2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis(1,2-  
 benzenedicarboxylic acid dianhydride) copolymer 222843-21-2,  
 m-BAPS-bicyclo(2,2,2)-octa-7-ene-2,3,5,6-tetracarboxylic acid  
 dianhydride-pyromellitic acid dianhydride copolymer 222843-41-6,  
 2,2-Bis[4-(4-aminophenoxy)phenyl]propane-3,4,3',4'-  
 Biphenyltetracarboxylic dianhydride-3,5-diaminobenzoic  
 acid-pyromellitic acid dianhydride-2,2'-bis(trifluoromethyl)  
 benzidine block copolymer

(polyimide composition for pos. photoresist)  
 REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE  
 FOR THIS RECORD. ALL CITATIONS AVAILABLE  
 IN THE RE FORMAT

L19 ANSWER 9 OF 20 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:695258 HCAPLUS

DOCUMENT NUMBER: 130:66817

TITLE: Poly(siloxymethylene glycol) as a new candidate  
 for a functional organosilicon polymers

AUTHOR(S): Aoki, Hidetoshi; Nagasaki, Yukio

CORPORATE SOURCE: R & D Center, Hokushin Corporation, Yokohama,  
 230, Japan

SOURCE: Current Trends in Polymer Science (1997), 2,  
 83-94

CODEN: CTSCFK

PUBLISHER: Research Trends

DOCUMENT TYPE: Journal; General Review

LANGUAGE: English

AB A review with 51 refs. on the synthesis and unique properties of  
 poly(siloxymethylene glycol) (PSEG). PSEG, an alternating  
 oligo(dimethylsiloxane)-oligo(ethylene glycol), was prepared from  
 diethylamino-terminated polydimethylsiloxane and PEG.. The  
 preparation, physicochem. properties, hydrolytic stability in aqueous  
 media, and use as a neg. working resist are reviewed and  
 discussed. Since PSEG consists of two very flexible components,  
 it is anticipated to show high flexibility. As is well known,  
 DMSO is a hydrophobic and OEG is a hydrophilic materials. Thus,  
 PSEG homolog has alternative hydrophilic/hydrophobic units in the  
 main chain. By changing the hydrophilic/hydrophobic balance, the  
 characteristics of the polymer, especially the solubility in water can be  
 controlled. For example, PSEG(2/7), where the nos. in parenthesis  
 represent number of OEG unit and DMSO units, resp., was soluble in cold  
 water. With increasing temperature, the solution become turbid, which is  
 well know as a lower critical solution temperature (LCST). The LCST can be  
 controlled by the hydrophilic/hydrophobic balance in the main  
 chain. Therefore, PSEG homologues are anticipated for  
 thermo-sensitive material which shows a rapid response. The PSEGs  
 are anticipated not only as a thermo-sensitive hydrogel but also  
 as resist materials because of they are Si-containing polymer. Since  
 the PSEGs show the LCST, they can be developed in water below the  
 LCST. This is big advantage for the resist processing in lithog.

IT 218129-37-4P

(preparation, unique properties, and potential use as neg. resist  
 of)

RN 218129-37-4 HCAPLUS

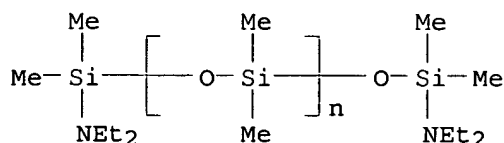
CN Poly[oxy(dimethylsilylene)],  $\alpha$ -[[(diethylamino)dimethylsilyl]-  
 $\omega$ -[[(diethylamino)dimethylsilyl]oxy]-, polymer with  
 $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl), block (9CI)  
 (CA INDEX NAME)

CM 1

CRN 169336-65-6

CMF (C2 H6 O Si)<sub>n</sub> C12 H32 N2 O Si2

CCI PMS

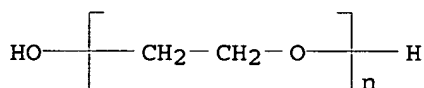


CM 2

CRN 25322-68-3

CMF (C2 H4 O)<sub>n</sub> H2 O

CCI PMS



CC 35-0 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 37, 38, 74

IT 156309-06-7P, Dimethylsilanediol-ethylene oxide block copolymer  
218129-37-4P(preparation, unique properties, and potential use as neg. resist  
of)REFERENCE COUNT: 52 THERE ARE 52 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L19 ANSWER 10 OF 20 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:221405 HCAPLUS

DOCUMENT NUMBER: 128:205187

TITLE: Functionalized Siloxane-Linked Polymers for  
Second-Order Nonlinear Optics

AUTHOR(S): Jiang, Hongwei; Kakkar, Ashok K.

CORPORATE SOURCE: Department of Chemistry, McGill University,  
Montreal, QC, H3A 2K6, Can.

SOURCE: Macromolecules (1998), 31(8), 2501-2508

CODEN: MAMOBX; ISSN: 0024-9297

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A variety of polymers containing NLO-active chromophores covalently bound in the siloxane-linked backbones, [-R<sub>2</sub>Si(OSiR<sub>2</sub>)<sub>n</sub>O(NLO-chromophore)O-]<sub>n</sub> (R = CH<sub>3</sub> or CH<sub>3</sub>/C<sub>6</sub>H<sub>4</sub>) and [-R<sub>2</sub>Si(OSiR<sub>2</sub>)<sub>n</sub>OR'O(NLO-chromophore)O-]<sub>n</sub> (R' = C<sub>6</sub>H<sub>4</sub>, C<sub>6</sub>H<sub>4</sub>C<sub>6</sub>H<sub>4</sub>), has been prepared. Their solubility in common organic solvents and high thermal stability impart ease of thin film preparation and poling at high temps. These polymers exhibit good second-harmonic generation susceptibilities, and the temporal stabilities of the SHG signals are dependent on the polymer backbone and the mol. structures of the NLO chromophores.

A detailed anal. of their phys. properties is reported.

IT 203938-71-0P 203938-73-2P 203938-75-4P  
 203938-76-5P 203938-79-8P 203938-81-2P  
 203938-83-4P 203938-84-5P 203938-85-6P  
 203938-88-9P 203938-91-4P 203938-92-5P  
 (preparation and characterization of functionalized siloxane-linked  
 polymers for second-order nonlinear optics)

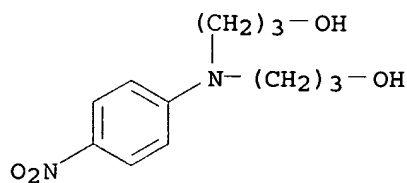
RN 203938-71-0 HCAPLUS

CN 1-Propanol, 3,3'-[(4-nitrophenyl)imino]bis-, polymer with  
 N,N,N',N'-tetraethyl-1,1,3,3-tetramethyl-1,3-disiloxanediamine  
 (9CI) (CA INDEX NAME)

CM 1

CRN 180037-98-3

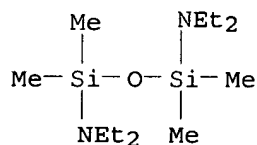
CMF C12 H18 N2 O4



CM 2

CRN 14759-97-8

CMF C12 H32 N2 O Si2



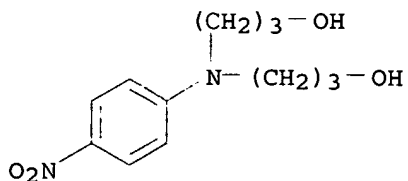
RN 203938-73-2 HCAPLUS

CN 1-Propanol, 3,3'-[(4-nitrophenyl)imino]bis-, polymer with  
 N,N,N',N'-tetraethyl-1,1,3,3,5,5-hexamethyl-1,5-trisiloxanediamine  
 (9CI) (CA INDEX NAME)

CM 1

CRN 180037-98-3

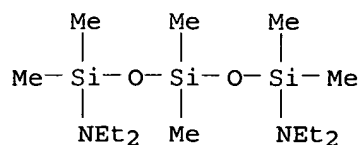
CMF C12 H18 N2 O4



CM 2

CRN 4766-77-2

CMF C14 H38 N2 O2 Si3



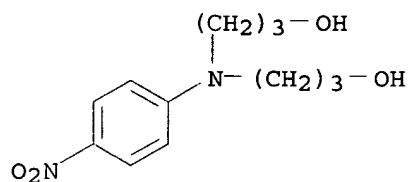
RN 203938-75-4 HCAPLUS

CN 1,4-Benzenediol, polymer with 3,3'-[(4-nitrophenyl)imino]bis[1-propanol] and N,N,N',N'-tetraethyl-1,1,3,3-tetramethyl-1,3-disiloxanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 180037-98-3

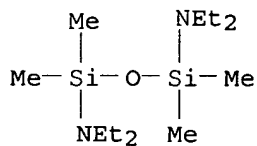
CMF C12 H18 N2 O4



CM 2

CRN 14759-97-8

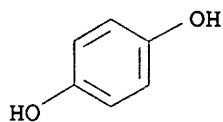
CMF C12 H32 N2 O Si2



CM 3

CRN 123-31-9

CMF C6 H6 O2

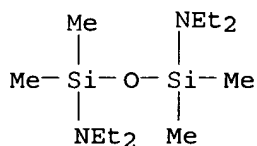


RN 203938-76-5 HCAPLUS  
 CN Ethanol, 2,2'-[[4-[(4-nitrophenyl)azo]phenyl]imino]bis-, polymer  
 with N,N,N',N'-tetraethyl-1,1,3,3-tetramethyl-1,3-  
 disiloxanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 14759-97-8

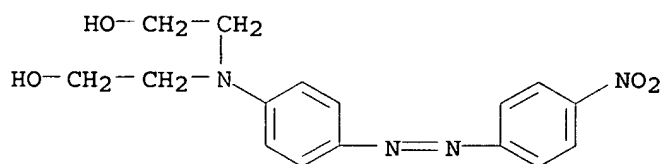
CMF C12 H32 N2 O Si2



CM 2

CRN 2734-52-3

CMF C16 H18 N4 O4

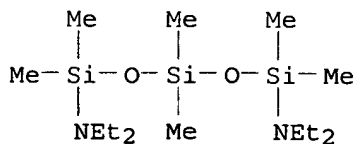


RN 203938-79-8 HCAPLUS  
 CN Ethanol, 2,2'-[[4-[(4-nitrophenyl)azo]phenyl]imino]bis-, polymer  
 with N,N,N',N'-tetraethyl-1,1,3,3,5,5-hexamethyl-1,5-  
 trisiloxanediamine (9CI) (CA INDEX NAME)

CM 1

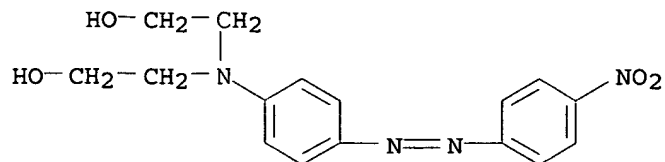
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CMF C14 H38 N2 O2 Si3



CM 2

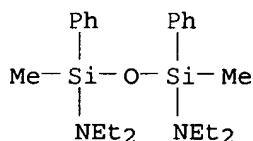
CRN 2734-52-3  
CMF C16 H18 N4 O4



RN 203938-81-2 HCAPLUS  
CN Ethanol, 2,2'-[[4-[(4-nitrophenyl)azo]phenyl]imino]bis-, polymer with N,N,N',N'-tetraethyl-1,3-dimethyl-1,3-diphenyl-1,3-disiloxanediamine (9CI) (CA INDEX NAME)

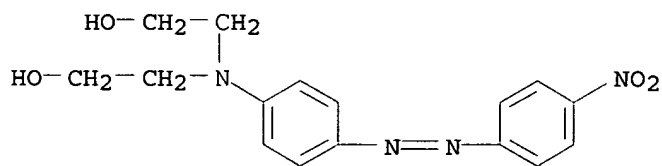
CM 1

CRN 62635-66-9  
CMF C22 H36 N2 O Si2



CM 2

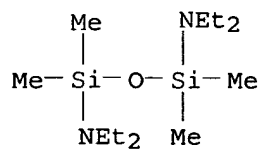
CRN 2734-52-3  
CMF C16 H18 N4 O4



RN 203938-83-4 HCAPLUS  
CN 1,4-Benzenediol, polymer with 2,2'-[[4-[(4-nitrophenyl)azo]phenyl]imino]bis[ethanol] and N,N,N',N'-tetraethyl-1,1,3,3-tetramethyl-1,3-disiloxanediamine (9CI) (CA INDEX NAME)

CM 1

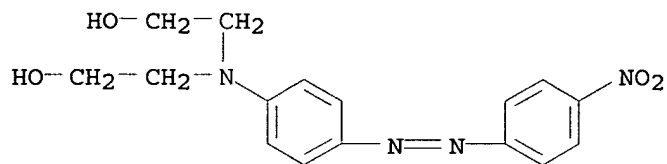
CRN 14759-97-8  
CMF C12 H32 N2 O Si2



CM 2

CRN 2734-52-3

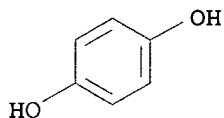
CMF C16 H18 N4 O4



CM 3

CRN 123-31-9

CMF C6 H6 O2



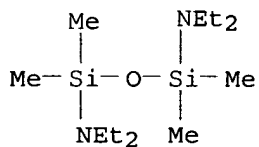
RN 203938-84-5 HCAPLUS

CN [1,1'-Biphenyl]-4,4'-diol, polymer with 2,2'-[[4-[(4-nitrophenyl)azo]phenyl]iminolbis[ethanol] and N,N,N',N'-tetraethyl-1,1,3,3-tetramethyl-1,3-disiloxanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 14759-97-8

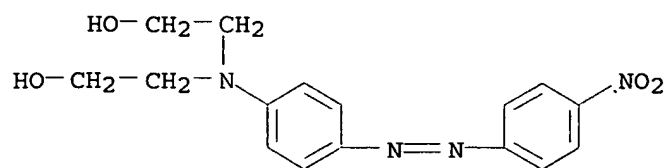
CMF C12 H32 N2 O Si2



CM 2

CRN 2734-52-3

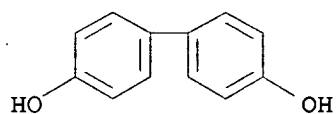
CMF C16 H18 N4 O4



CM 3

CRN 92-88-6

CMF C12 H10 O2



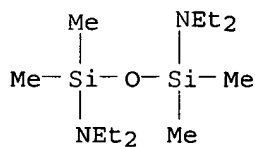
RN 203938-85-6 HCAPLUS

CN Pyridinium, 4-[2-[4-[bis(2-hydroxyethyl)amino]phenyl]ethenyl]-1-methyl-, tetraphenylborate(1-), polymer with N,N,N',N'-tetraethyl-1,1,3,3-tetramethyl-1,3-disiloxanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 14759-97-8

CMF C12 H32 N2 O Si2



CM 2

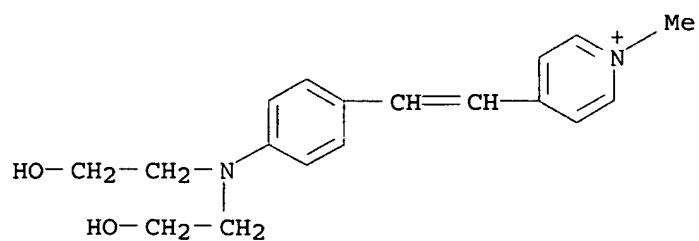
CRN 203938-66-3

CMF C24 H20 B . C18 H23 N2 O2

CM 3

CRN 144208-25-3

CMF C18 H23 N2 O2

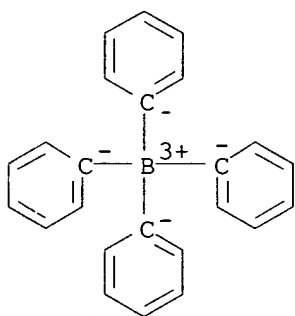


CM 4

CRN 4358-26-3

CMF C24 H20 B

CCI CCS



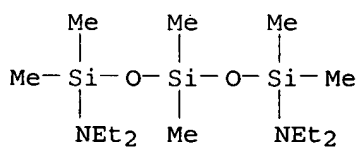
RN 203938-88-9 HCAPLUS

CN Pyridinium, 4-[2-[4-[bis(2-hydroxyethyl)amino]phenyl]ethenyl]-1-methyl-, tetraphenylborate(1-), polymer with N,N,N',N'-tetraethyl-1,1,3,3,5,5-hexamethyl-1,5-trisiloxanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 4766-77-2

CMF C14 H38 N2 O2 Si3



CM 2

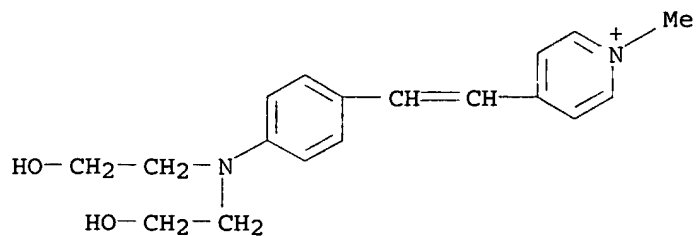
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CMF C24 H20 B . C18 H23 N2 O2

CM 3

CRN 144208-25-3

CMF C18 H23 N2 O2

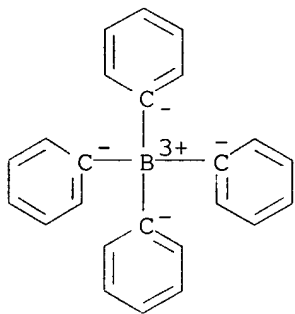


CM 4

CRN 4358-26-3

CMF C24 H20 B

CCI CCS



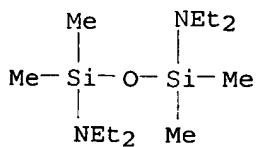
RN 203938-91-4 HCAPLUS

CN Pyridinium, 4-[2-[4-[bis(2-hydroxyethyl)amino]phenyl]ethenyl]-1-methyl-, tetraphenylborate(1-), polymer with 1,4-benzenediol and N,N,N',N'-tetraethyl-1,1,3,3-tetramethyl-1,3-disiloxanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 14759-97-8

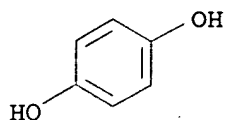
CMF C12 H32 N2 O Si2



CM 2

CRN 123-31-9

CMF C6 H6 O2



CM 3

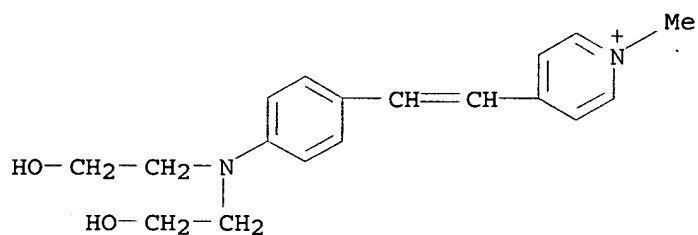
CRN 203938-66-3

CMF C24 H20 B . C18 H23 N2 O2

CM 4

CRN 144208-25-3

CMF C18 H23 N2 O2

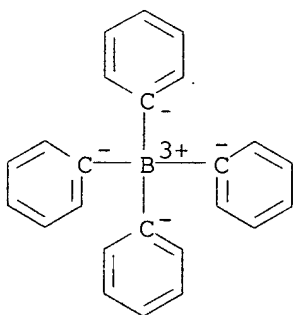


CM 5

CRN 4358-26-3

CMF C24 H20 B

CCI CCS



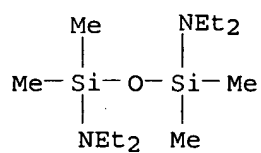
RN 203938-92-5 HCAPLUS

CN Pyridinium, 4-[2-[4-[bis(2-hydroxyethyl)amino]phenyl]ethenyl]-1-methyl-, tetrakis(phenyl)borate(1-), polymer with [1,1'-biphenyl]-4,4'-diol and N,N,N',N'-tetraethyl-1,1,3,3-tetramethyl-1,3-disiloxanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 14759-97-8

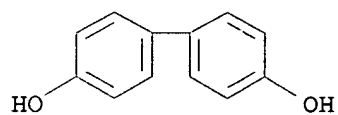
CMF C12 H32 N2 O Si2



CM 2

CRN 92-88-6

CMF C12 H10 O2



CM 3

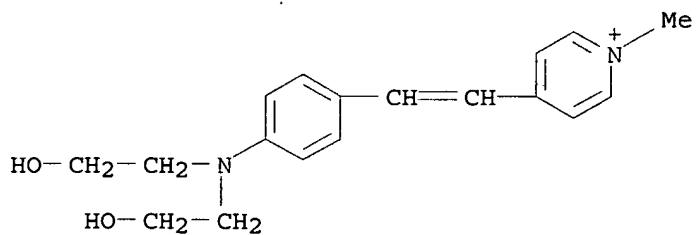
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CMF C24 H20 B . C18 H23 N2 O2

CM 4

CRN 144208-25-3

CMF C18 H23 N2 O2

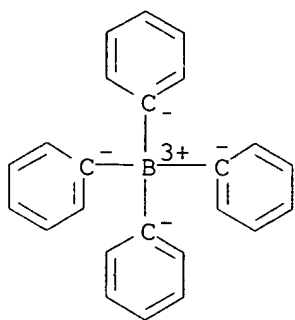


CM 5

CRN 4358-26-3

CMF C24 H20 B

CCI CCS



CC 35-5 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 36, 74, 76

IT 203938-71-0P 203938-72-1P 203938-73-2P

203938-74-3P 203938-75-4P 203938-76-5P

203938-78-7P 203938-79-8P 203938-80-1P

203938-81-2P 203938-82-3P 203938-83-4P

203938-84-5P 203938-85-6P 203938-87-8P

203938-88-9P 203938-90-3P 203938-91-4P

203938-92-5P

(preparation and characterization of functionalized siloxane-linked polymers for second-order nonlinear optics)

REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L19 ANSWER 11 OF 20 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:350400 HCAPLUS

DOCUMENT NUMBER: 127:5501

TITLE: Polyoxyalkylene-polysiloxanes for  
**photoresists** having improved  
dimensional stability and their manufacture  
INVENTOR(S): Kato, Masao; Nagasaki, Yukio; Matsukura,  
Fumiaki; Tokuda, Takashi; Aoki, Hidetoshi  
PATENT ASSIGNEE(S): Hokushin Kogyo K. K., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.  
CODEN: JKXXAF

DOCUMENT TYPE: Patent  
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09071658	A2	19970318	JP 1995-229145	1995 0906
JP 2004169041	A2	20040617	JP 2004-6076	2004 0113
JP 2004211098	A2	20040729	JP 2004-34064	2004 0210
PRIORITY APPLN. INFO.:			JP 1995-229145	A3 1995 0906

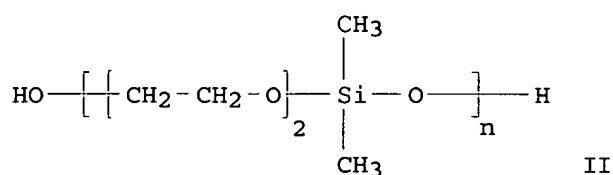
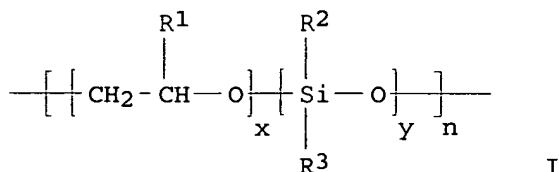
JP 2004-6076

A3

2004

0113

GI



AB Polymers comprising alternating oligo oxyalkylene chains and oligo siloxane chains have structural repeating unit I (R<sub>1</sub> = C1-5 alkyl, aryl, aralkyl; R<sub>2</sub>, R<sub>3</sub> = H, OH, C1-7 alkoxy, phenoxy, C1-10 alkyl, aryl, aralkyl, halogenated alkyl, halogenated aryl, alkylcarbonyloxy, arylcarbonyloxy, CN, sulfonate group, carboxylic acid ester group, ether- or acyl-containing group; x, y = 1-10; n = 1-10,000) and are prepared by the reaction of an oligo oxyalkylene compound with an oligo siloxane compound. Thus bis(diethylamino)dimethylsilane and diethylene glycol were polymerized in THF at room temperature for 24 h to give polymer II (n = 40) having number-average mol. weight 6500. The polymers have resistance to reactive oxygen plasma etching and improved dimensional stability.

IT 189369-60-6P

(polyoxyalkylene-polysiloxane alternating polymers for photoresists)

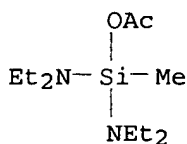
RN 189369-60-6 HCAPLUS

CN Ethanol, 2,2'-[1,2-ethanediylbis(oxy)]bis-, polymer with bis(diethylamino)methylsilyl acetate (9CI) (CA INDEX NAME)

CM 1

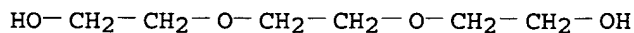
CRN 189369-59-3

CMF C11 H26 N2 O2 Si



CM 2

CRN 112-27-6  
CMF C6 H14 O4



IT 179953-13-0P 189369-43-5P 189369-45-7P  
189369-55-9P 189369-57-1P

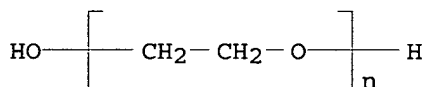
(polyoxyalkylene-polysiloxane alternating polymers for  
photoresists)

RN 179953-13-0 HCAPLUS

CN 1,3-Disiloxanediamine, N,N,N',N'-tetraethyl-1,1,3,3-tetramethyl-,  
polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl)  
(9CI) (CA INDEX NAME)

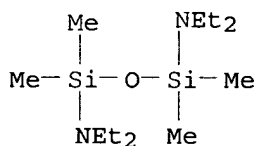
CM 1

CRN 25322-68-3  
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CCI PMS



CM 2

CRN 14759-97-8  
CMF C12 H32 N2 O Si2

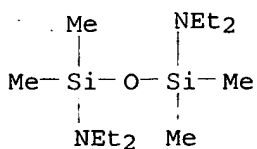


RN 189369-43-5 HCAPLUS

CN Ethanol, 2,2'-[1,2-ethanediylbis(oxy)]bis-, polymer with  
N,N,N',N'-tetraethyl-1,1,3,3-tetramethyl-1,3-disiloxanediamine  
(9CI) (CA INDEX NAME)

CM 1

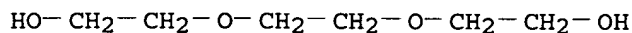
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CMF C12 H32 N2 O Si2



CM 2

CRN 112-27-6

CMF C6 H14 O4



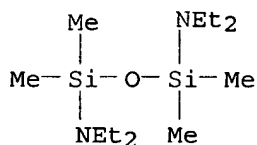
RN 189369-45-7 HCAPLUS

CN Ethanol, 2,2'-[oxybis(2,1-ethanediylxy)]bis-, polymer with  
N,N,N',N'-tetraethyl-1,1,3,3-tetramethyl-1,3-disiloxanedi-  
amine (9CI) (CA INDEX NAME)

CM 1

CRN 14759-97-8

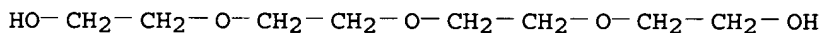
CMF C12 H32 N2 O Si2



CM 2

CRN 112-60-7

CMF C8 H18 O5



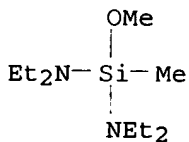
RN 189369-55-9 HCAPLUS

CN Ethanol, 2,2'-oxybis-, polymer with N,N,N',N'-tetraethyl-1-methoxy-  
1-methylsilanedi-amine (9CI) (CA INDEX NAME)

CM 1

CRN 64451-48-5

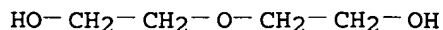
CMF C10 H26 N2 O Si



CM 2

CRN 111-46-6

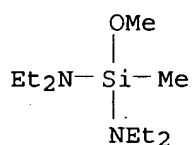
CMF C4 H10 O3



RN 189369-57-1 HCAPLUS  
 CN Ethanol, 2,2'-[1,2-ethanediylbis(oxy)]bis-, polymer with  
 N,N,N',N'-tetraethyl-1-methoxy-1-methylsilanediamine (9CI) (CA  
 INDEX NAME)

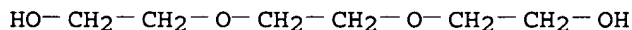
CM 1

CRN 64451-48-5  
 CMF C10 H26 N2 O Si



CM 2

CRN 112-27-6  
 CMF C6 H14 O4



IC ICM C08G077-46  
 ICS C08G077-06; G03F007-038; G03F007-039; G03F007-075;  
 H01L021-027  
 CC 35-5 (Chemistry of Synthetic High Polymers)  
 Section cross-reference(s): 74  
 ST polyoxyalkylene siloxane alternating photoresist  
 IT Polysiloxanes, preparation  
 Polysiloxanes, preparation  
 (polyoxyalkylene-, alternating; polyoxyalkylene-polysiloxane  
 alternating polymers for photoresists)  
 IT **Photoresists**  
 (polyoxyalkylene-polysiloxane alternating polymers for  
 photoresists)  
 IT Polyoxyalkylenes, preparation  
 Polyoxyalkylenes, preparation  
 (polysiloxane-, alternating; polyoxyalkylene-polysiloxane  
 alternating polymers for photoresists)  
 IT 189369-47-9P 189369-48-0P 189369-60-6P 189369-61-7P  
 (polyoxyalkylene-polysiloxane alternating polymers for  
 photoresists)  
 IT 26499-73-0P 96141-31-0P 96161-61-4P 102188-13-6P  
 102244-02-0P 179953-12-9P 179953-13-0P 189369-40-2P  
 189369-41-3P 189369-42-4P 189369-43-5P 189369-44-6P  
 189369-45-7P 189369-46-8P 189369-49-1P 189369-50-4P  
 189369-51-5P 189369-52-6P 189369-53-7P 189369-54-8P  
 189369-55-9P 189369-56-0P 189369-57-1P

189369-58-2P

(polyoxyalkylene-polysiloxane alternating polymers for photoresists)

L19 ANSWER 12 OF 20 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1997:140370 HCAPLUS  
 DOCUMENT NUMBER: 126:226590  
 TITLE: Thermally stable polysiloxane release agents  
 INVENTOR(S): Chen, Tsang J.; Nielsen, Paul L.; Chen, Jiann-hsing  
 PATENT ASSIGNEE(S): Eastman Kodak Company, USA  
 SOURCE: U.S., 8 pp.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

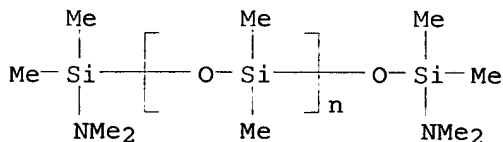
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5604039	A	19970218	US 1996-589666	1996 0122
PRIORITY APPLN. INFO.: US 1996-589666				1996 0122

AB A release agent consists of a blend .apprx.99% of poly(organosiloxane) fluid and .apprx.1% phenol-functionalized poly(organosiloxane) fluid when used at elevated temps. does not produce insol. or undesirable byproducts or gelation. The release agent is particularly suited for application to a fuser member for fusing toner images to a receiver. Thus a blend of poly(dimethylsiloxane) and 0.5% phenol-terminated poly(dimethylsiloxane) [made by reaction of 2,2-Bis(4-hydroxyphenyl)hexafluoropropane with amino-terminated poly(dimethylsiloxane)] (weight-average mol. weight 9340) was heated at 200°; showing viscosity 60,000, 60,000, and 51,000 cSt after 0, 192, and 576 h.

IT 97969-56-7DP, reaction product with bis(hydroxyphenyl)hexafluoropropane (thermally stable polysiloxane release agents)

RN 97969-56-7 HCAPLUS

CN Poly[oxy(dimethylsilylene)],  $\alpha$ -[(dimethylamino)dimethylsilyl]- $\omega$ -[[[(dimethylamino)dimethylsilyl]oxy]- (9CI) (CA INDEX NAME)



IC ICM B32B009-04  
 INCL 428447000  
 CC 42-10 (Coatings, Inks, and Related Products)  
 Section cross-reference(s): 37, 74

IT 1478-61-1DP, reaction product with amino-terminated poly(dimethylsiloxane) 1745-81-9DP, o-Allyl phenol, reaction product with polydimethylsiloxane 31900-57-9DP, Dimethylsilanediol homopolymer, reaction product with ortho-allyl phenol 97969-56-7DP, reaction product with bis(hydroxyphenyl)hexafluoropropane 156118-35-3DP, Dimethylsilanediol-methylsilanediol copolymer, reaction product with ortho-allyl phenol 157169-80-7P 188348-81-4P (thermally stable polysiloxane release agents)

L19 ANSWER 13 OF 20 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1996:562970 HCAPLUS

DOCUMENT NUMBER: 125:198153

TITLE: Epoxy resin compositions and semiconductor devices with low internal stress and improved resistance to moisture, thermal shock, and high temperature

INVENTOR(S): Kobayashi, Hironori; Okuda, Satoshi

PATENT ASSIGNEE(S): Nitto Denko Corp, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

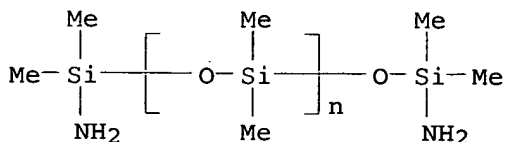
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 08188640	A2	19960723	JP 1995-3391	1995 0112
JP 3468900	B2	20031117		
PRIORITY APPLN. INFO.:			JP 1995-3391	1995 0112

AB Semiconductor devices are sealed with the title compns. containing (A) epoxy resins, (B) novolak phenolic resins, (C) modified resins obtained by melting and mixing (a) epoxy resins and/or novolak phenolic resins, (b) Me methacrylate (I)-butadiene (II)-styrene (III) copolymer with average particle diameter 0.01-5  $\mu$ m, and (c) silicone oils, and (D) inorg. fillers. Thus, 20 parts 44.4:25.1:30.4 I-III-II graft copolymer with particle diameter 0.10  $\mu$ m and 100 parts o-cresol novolak-type epoxy resin were blended at 100°, then 43 parts the obtained resin was kneaded at 100° with o-cresol novolak-type epoxy resin 64, phenolic novolak 50, brominated novolak epoxy resin 10, Sb2O3 8, vitreous SiO2 500, 2-methylimidazole 2, carnauba wax 6, carbon powder 5, and  $\gamma$ -glycidoxypopyltrimethoxysilane 4 parts to give a packaging resin with spiral flow as determined by molding at 175° and 70 kg/cm<sup>2</sup> for 2 min 72 cm. The resin was molded at 175° and post-cured at the same temperature to give test pieces with Young's modulus in flexure 1270 kPa, linear expansion coefficient 1.79 L/°C, and no Al corrosion by pressure cooker test for 200 h.

IT 163002-36-6

(epoxy resin compns. for semiconductor devices with low internal stress and improved resistance to moisture, thermal shock, and high temperature)

RN 163002-36-6 HCAPLUS  
 CN Poly[oxy(dimethylsilylene)],  $\alpha$ -(aminodimethylsilyl)- $\omega$ -  
 [(aminodimethylsilyl)oxy]- (9CI) (CA INDEX NAME)



IC ICM C08G059-62  
 ICS C08L063-00; H01L023-29; H01L023-31  
 ICA C08G059-14  
 CC 38-3 (Plastics Fabrication and Uses)  
 Section cross-reference(s): 39, 74, 76  
 IT 31900-57-9D, Dimethylsilanediol homopolymer,  $\alpha$ -  
 (aminodimethylsilyl)- $\omega$ -[(aminodimethylsilyl)oxy]-terminated  
 163002-36-6  
 (epoxy resin compns. for semiconductor devices with low  
 internal stress and improved resistance to moisture, thermal  
 shock, and high temperature)

L19 ANSWER 14 OF 20 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1990:414810 HCAPLUS  
 DOCUMENT NUMBER: 113:14810  
 TITLE: Heat-resistant **photoresist**  
 INVENTOR(S): Wada, Keiichiro; Furukawa, Nobuyuki  
 PATENT ASSIGNEE(S): Nippon Steel Chemical Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01230631	A2	19890914	JP 1988-55958	1988 0311
PRIORITY APPLN. INFO.:				1988 0311

AB A tetracarboxylic anhydride is reacted with a silylated diamine containing **photosensitive** groups at  $\leq 100^\circ$  in an organic solvent. The resultant heat-resistant **photosensitive** polyimide or polyamidoimide is used as a **photoresist** for relief pattern formation during semiconductor device fabrication.

IT 127536-88-3 127536-90-7  
 (photoresist composition using, for heat-resist resist pattern formation)

RN 127536-88-3 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, oxybis[4,1-phenyleneimino(dimethylsilylene)oxy-2,1-ethanediyl] ester, polymer with 5,5'-carbonylbis[1,3-isobenzofurandione] (9CI) (CA INDEX

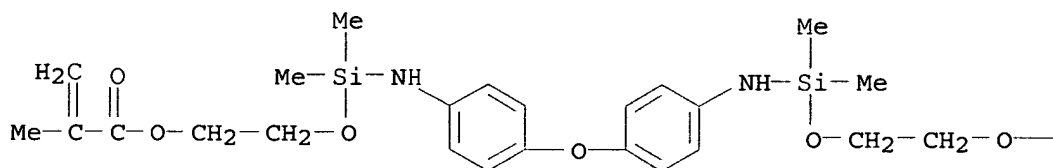
NAME)

CM 1

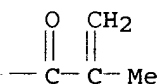
CRN 127536-87-2

CMF C28 H40 N2 O7 Si2

PAGE 1-A



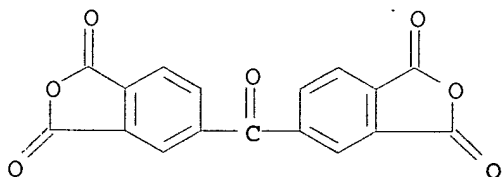
PAGE 1-B



CM 2

CRN 2421-28-5

CMF C17 H6 O7



RN 127536-90-7 HCAPLUS

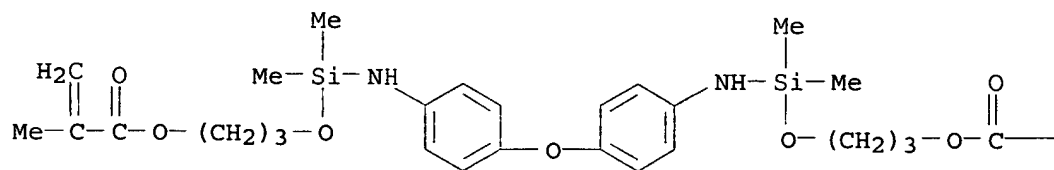
CN 2-Propenoic acid, 2-methyl-, oxybis[4,1-phenyleneimino(dimethylsilylene)oxy-3,1-propanediyl] ester, polymer with 5,5'-carbonylbis[1,3-isobenzofurandione] (9CI) (CA INDEX NAME)

CM 1

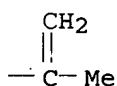
CRN 127536-89-4

CMF C30 H44 N2 O7 Si2

PAGE 1-A



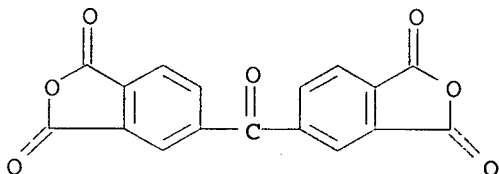
PAGE 1-B



CM 2

CRN 2421-28-5

CMF C17 H6 O7



IC ICM C08G073-10  
ICS C08F002-48; C08F299-02; C08G071-02; C08G073-10  
CC 74-5 (Radiation Chemistry, **Photochemistry**, and  
**Photographic** and Other Reprographic Processes)  
Section cross-reference(s): 76  
ST **photoresist** polyimide polyamide silylated; resist  
pattern polyimide polyamide  
IT Polyimides, uses and miscellaneous  
(**photoresists**, for heat-resistant pattern formation)  
IT Resists  
(**photo-**, silylated polyimides and polyamidoimides as,  
for heat-resistant pattern formation)  
IT 127536-86-1 127536-88-3 127536-90-7  
127554-77-2 127706-32-5  
(**photoresist** composition using, for heat-resist resist  
pattern formation)

L19 ANSWER 15 OF 20 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1990:140836 HCAPLUS

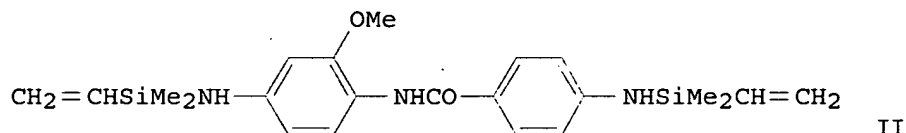
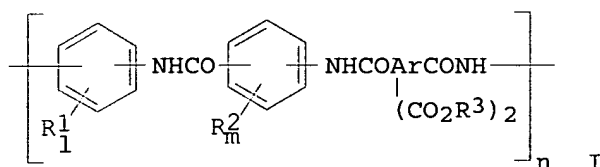
DOCUMENT NUMBER: 112:140836

TITLE: Heat-resistant **photocurable** polyamic  
acid materials with low thermal expansion  
INVENTOR(S): Wada, Keiichiro; Furukawa, Nobuyuki; Watanabe,  
Takashi

PATENT ASSIGNEE(S): Nippon Steel Chemical Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01249831	A2	19891005	JP 1988-76384	1988 0331
PRIORITY APPLN. INFO.:			JP 1988-76384	1988 0331

GI



AB Title materials useful as insulators for printed circuit boards contain polymers with main units I (Ar = aromatic group; R1-2 = halo, organic group; R3 = Si-containing group polymerizable or crosslinkable by radiation;  $n \geq 1$ ;  $l, m = 0-4$ ). A solution of 39.6 g vinylsilane II in AcNMe2 was treated with 21.8 g pyromellitic dianhydride at 40° for 5 h to give a viscous liquid which was mixed with 2.0 g Calcon diazide to give a **photocurable** solution which gave a cured film having thermal expansion coefficient  $0.4 + 10^{-5}/^{\circ}\text{C}$  and 24-h water absorption 2.7%. A Si wafer was spin coated with the solution, dried, irradiated with UV light through a mask, immersed in MeCN-AcNMe2 mixture, washed, and heated 5 min at 80°, 30 min at 150°, and 15 min at 360° to form a pattern with thermal decomposition initiation temperature 430°, vs. no pattern formation with bis[4-[(methacryloxypropyl)dimethylsilyl]amino]phenyl ether instead of II.

IT 125929-97-7P 125929-99-9P

(preparation of **photocurable**, for circuit board insulator)

RN 125929-97-7 HCAPLUS

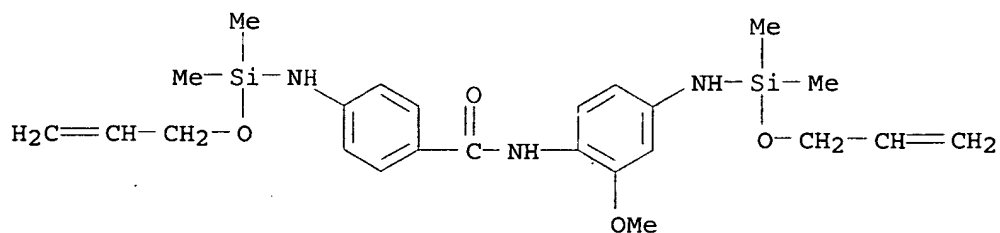
CN Benzamide, 4-[[dimethyl(2-propenyloxy)silyl]amino]-N-[4-[[dimethyl(2-propenyloxy)silyl]amino]-2-methoxyphenyl]-, polymer with 1H,3H-benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone (9CI) (CA

## INDEX NAME)

CM 1

CRN 125929-96-6

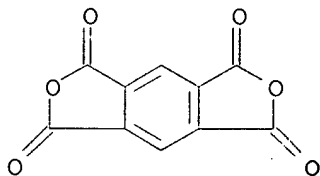
CMF C24 H35 N3 O4 Si2



CM 2

CRN 89-32-7

CMF C10 H2 O6



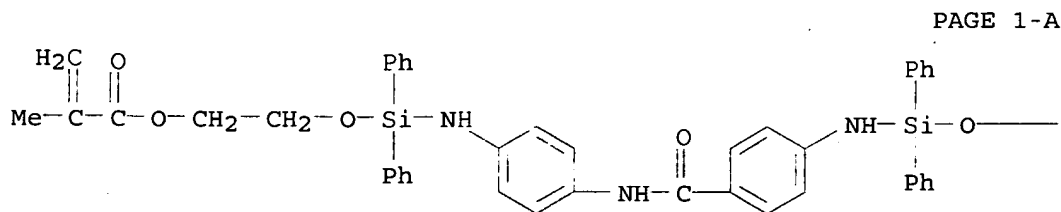
RN 125929-99-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-[[[4-[[4-[[[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethoxy]diphenylsilyl]amino]benzoyl]amino]phenyl]amino]diphenylsilyl]oxy]ethyl ester, polymer with 1H,3H-benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone (9CI) (CA INDEX NAME)

CM 1

CRN 125929-98-8

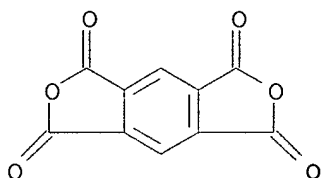
CMF C49 H49 N3 O7 Si2



PAGE 1-A

$$-\text{CH}_2-\text{CH}_2-\text{O}-\overset{\overset{\text{O}}{\parallel}}{\text{C}}-\overset{\overset{\text{CH}_2}{\parallel}}{\text{C}}-\text{Me}$$

CRN 89-32-7  
CMF C10 H2 O6



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L19 ANSWER 16 OF 20 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1988:229670 HCAPLUS
DOCUMENT NUMBER: 108:229670
TITLE: Polyamides for heat-resistant
        photosensitive materials
INVENTOR(S): Imai, Yoshio; Ota, Takayuki
PATENT ASSIGNEE(S): Mitsubishi Chemical Industries Co., Ltd.,
                    Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
        CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:
```

USHA SHRESTHA EIC 1700 REM 4B28.

1986  
0523

AB The title polymers are prepared from tetracarboxylic dianhydrides and diamines  $\text{RSiR}_1\text{R}_2\text{NHZNHSiR}_3\text{R}_4\text{R}_5$  ( $Z$  = divalent organic group;  $\text{R}-\text{R}_5$  = aliphatic or aromatic group;  $\geq 1$  of  $\text{R}-\text{R}_5$  contains light- or radiation-polymerizable double bond). Polymerizing 10 mmol  $\text{N,N}'$ -bis(methacryloxydimethylsilyl)- $p,p'$ -diaminodiphenyl ether and 10 mmol pyromellitic dianhydride in  $\text{N}$ -methyl-2-pyrrolidone for 5 h gave a polyamide solution which was mixed with Michler's ketone, spin coated on glass, dried, cured with UV light through a mask, developed, and heated 30 min at  $350^\circ$  to give a heat-resistant relief image.

IT 114690-28-7P

(preparation of **photocurable**, for heat-resistant relief images)

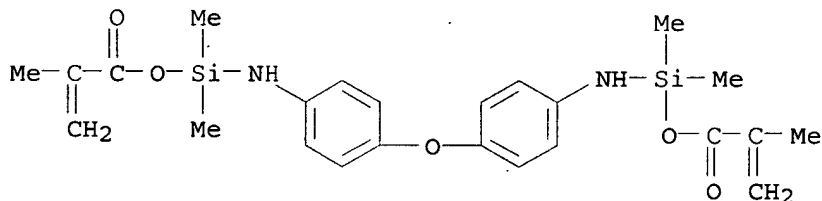
RN 114690-28-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, oxybis[4,1-phenyleneimino(dimethylsilylene)] ester, polymer with 1H,3H-benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone (9CI) (CA INDEX NAME)

CM 1

CRN 114690-27-6

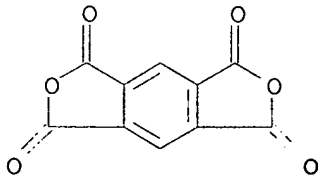
CMF C24 H32 N2 O5 Si2



CM 2

CRN 89-32-7

CMF C10 H2 O6



IC ICM C08G073-10

ICS C08F299-02; C08G073-10; G03C001-68; G03C001-71

CC 74-5 (Radiation Chemistry, **Photochemistry**, and **Photographic** and Other Reprographic Processes)  
Section cross-reference(s): 37

ST heat resistance polyamide methacrylate; polyamide methacryloxysilylamine **photocuring**; silylamine methacryloxy polyamide **photocuring**; pyromellitic

methacryloxysilylamine polyamide; amine methacryloxysilyl polyamide; resist **photo** methacryloxysilylamine polyamide; crosslinking **photo** polyamide methacrylate

IT **Photoimaging** compositions and processes  
(bis[[(methacryloxydimethylsilyl)amino]phenyl] ether-pyromellitic dianhydride copolymers for)

IT Polyamides, uses and miscellaneous  
(**photoresists**, methacryloxysilyl group-containing)

IT Resists  
(**photo-**, bis[[(methacryloxydimethylsilyl)amino]phenyl] ether-pyromellitic dianhydride copolymers for)

IT Crosslinking  
(**photochem.**, methacryloxysilyl group-containing polyamides for)

IT **114690-28-7P**  
(preparation of **photocurable**, for heat-resistant relief images)

L19 ANSWER 17 OF 20 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1987:534857 HCAPLUS  
 DOCUMENT NUMBER: 107:134857  
 TITLE: Liquid nonaqueous dispersants  
 INVENTOR(S): Tsubushi, Kazuo; Kuramoto, Shinichi  
 PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 62007717	A2	19870114	JP 1985-146065	1985 0702

PRIORITY APPLN. INFO.: JP 1985-146065  
 1985  
 0702

AB The title dispersants are prepared by polymerizing mixts. containing H2C:CRR1 (R = H, Me; R1 = CO2ClH2l+1, O2CClH2l+1; l = 6-20), (R2O)mSi(NCO)4-m (R2 = CnH2n+1; m = 1-3; n = 1-20), and monomers having functional groups which can react with isocyanates. These compns. have excellent adhesion and dispersibility, and are useful for electrophotog. developers having high fixation ratio and durability. Thus, a mixture of 190 g H2C:CMcCO2(CH2)11Me 190, MeOSi(NCO)3 65, glycidyl methacrylate 30, H2C:CHC6H4Me 60, and AIBN 6 g was added to 300 g isooctane over 2 h at 90°, and the mixture stirred at 90° for 4 h to give a copolymer (conversion 98.2%; viscosity 315 cP, particle diams. 0.8-1.5 μ), 50 g of which was dispersed in 10 g carbon black, and 100 g kerosene to give a condensed toner which, when diluted and tested in a copier, showed fixation ratio 82.6%, good durability, and good storage stability at 50° for 3 mo.

IT **110411-85-3P 110411-86-4P 110411-87-5P**  
**110411-89-7P 110429-65-7P**  
 (manufacture of, as dispersants for electrophotog. toners)

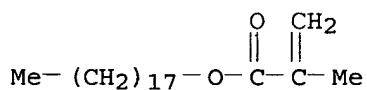
RN 110411-85-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, octadecyl ester, polymer with diisocyanatodimethoxysilane and oxiranylmethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 32360-05-7

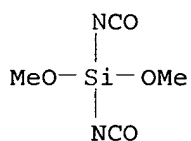
CMF C22 H42 O2



CM 2

CRN 18147-89-2

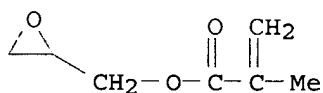
CMF C4 H6 N2 O4 Si



CM 3

CRN 106-91-2

CMF C7 H10 O3



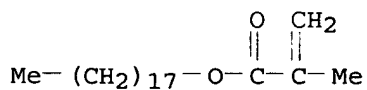
RN 110411-86-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with diisocyanatodipropoxysilane and octadecyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

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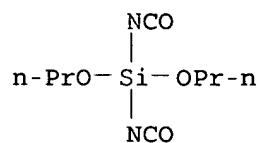
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CMF C22 H42 O2



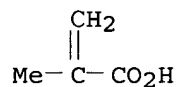
CM 2

CRN 18482-39-8  
CMF C8 H14 N2 O4 Si



CM 3

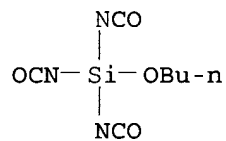
CRN 79-41-4  
CMF C4 H6 O2



RN 110411-87-5 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester, polymer  
with butoxytriisocyanatosilane and 2-ethylhexyl  
2-methyl-2-propenoate (9CI) (CA INDEX NAME)

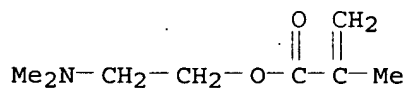
CM 1

CRN 89548-85-6  
CMF C7 H9 N3 O4 Si



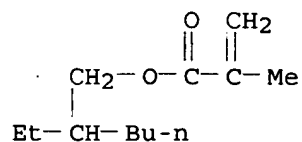
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CRN 2867-47-2  
CMF C8 H15 N O2



CM 3

CRN 688-84-6  
CMF C12 H22 O2



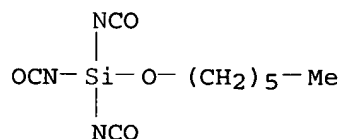
RN 110411-89-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-(diethylamino)ethyl ester, polymer with 2-ethylhexyl 2-methyl-2-propenoate and (hexyloxy)triisocyanatosilane (9CI) (CA INDEX NAME)

CM 1

CRN 110411-88-6

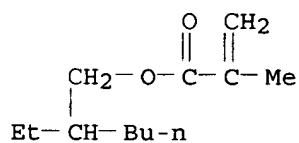
CMF C9 H13 N3 O4 Si



CM 2

CRN 688-84-6

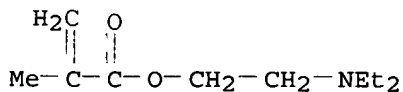
CMF C12 H22 O2



CM 3

CRN 105-16-8

CMF C10 H19 N O2



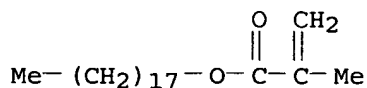
RN 110429-65-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, octadecyl ester, polymer with 2-propenoic acid and triisocyanatopropoxysilane (9CI) (CA INDEX NAME)

CM 1

CRN 32360-05-7

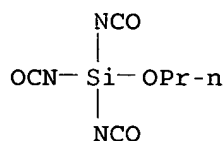
CMF C22 H42 O2



CM 2

CRN 18476-13-6

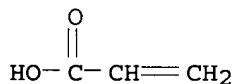
CMF C6 H7 N3 O4 Si



CM 3

CRN 79-10-7

CMF C3 H4 O2



IC ICM C08G018-00

ICS C08G018-77; G03G009-12

CC 35-4 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 74

IT 27401-06-5DP, reaction products with isocyanatotripropoxysilane

34888-27-2DP, reaction products with isocyanatotriethoxysilane

34888-27-2DP, reaction products with isocyanatotrimethoxysilane

34888-27-2P 108737-88-8DP, reaction products with

isocyanatotrimethoxysilane 110411-85-3P

110411-86-4P 110411-87-5P 110411-89-7P

110429-65-7P

(manufacture of, as dispersants for electrophotog. toners)

L19 ANSWER 18 OF 20 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1981:559913 HCAPLUS

DOCUMENT NUMBER: 95:159913

TITLE: Molecular orientation-controlling films for liquid crystal display devices

PATENT ASSIGNEE(S): Hitachi, Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

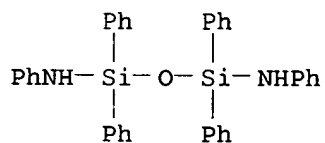
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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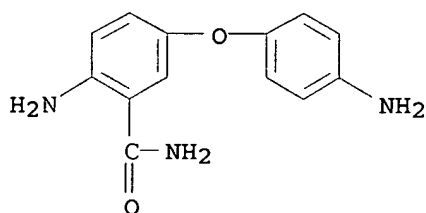




CM 2

CRN 40763-98-2

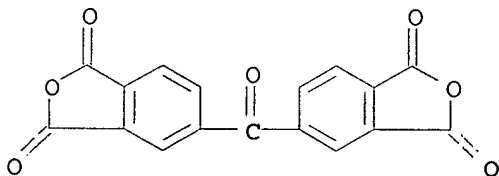
CMF C13 H13 N3 O2



CM 3

CRN 2421-28-5

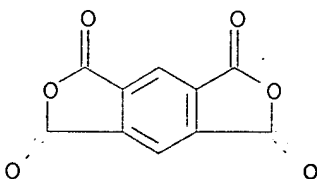
CMF C17 H6 O7



CM 4

CRN 89-32-7

CMF C10 H2 O6



RN 78524-53-5 HCAPLUS

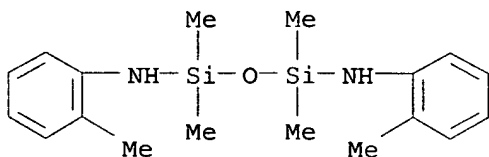
CN Benzamide, 2-amino-5-(4-aminophenoxy)-, polymer with  
 1H,3H-benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone and  
 1,1,3,3-tetramethyl-N,N'-bis(2-methylphenyl)-1,3-disiloxanediamine

(9CI) (CA INDEX NAME)

CM 1

CRN 78524-52-4

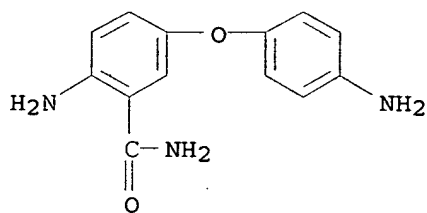
CMF C18 H28 N2 O Si2



CM 2

CRN 40763-98-2

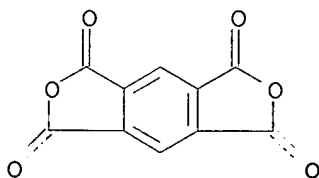
CMF C13 H13 N3 O2



CM 3

CRN 89-32-7

CMF C10 H2 O6



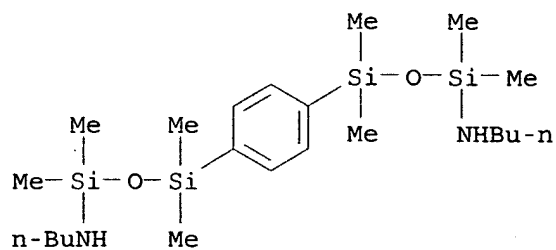
RN 78524-55-7 HCAPLUS

CN Benzamide, 2-amino-5-(4-aminophenoxy)-, polymer with  
 1H,3H-benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone and  
 3,3'-(1,4-phenylene)bis[N-butyl-1,1,3,3-tetramethyldisiloxanamine]  
 (9CI) (CA INDEX NAME)

CM 1

CRN 78524-54-6

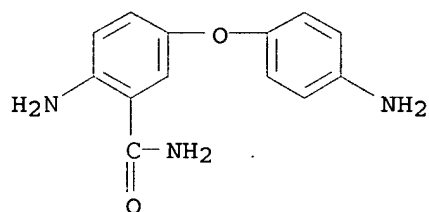
CMF C22 H48 N2 O2 Si4



CM 2

CRN 40763-98-2

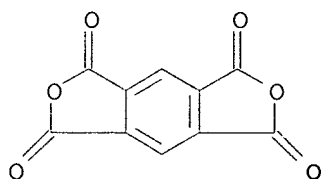
CMF C13 H13 N3 O2



CM 3

CRN 89-32-7

CMF C10 H2 O6



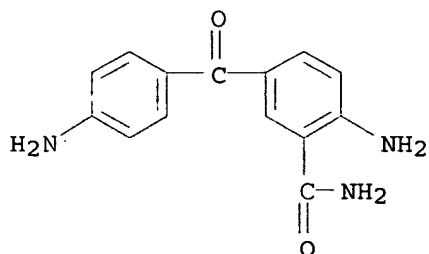
RN 78565-47-6 HCAPLUS

CN Benzamide, 2-amino-5-(4-aminobenzoyl)-, polymer with  
5,5'-carbonylbis[1,3-isobenzofurandione] and N,N'-dibutyl-1,1,3,3-  
tetramethyl-1,3-disiloxanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 46987-63-7

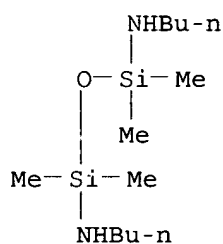
CMF C14 H13 N3 O2



CM 2

CRN 19284-52-7

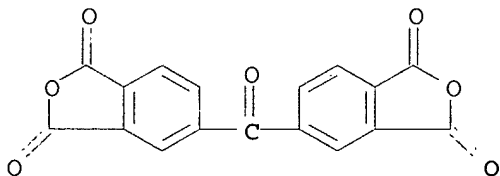
CMF C12 H32 N2 O Si2



CM 3

CRN 2421-28-5

CMF C17 H6 O7



IC G02F001-133; C09K003-34; G09F009-00

CC 74-8 (Radiation Chemistry, **Photochemistry**, and **Photographic Processes**)

Section cross-reference(s): 75, 76

IT 78524-49-9 78524-51-3 78524-53-5

78524-55-7 78565-47-6

(mol. orientation-controlling film of, for liquid crystal display devices)

L19 ANSWER 19 OF 20 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1979:493066 HCAPLUS

DOCUMENT NUMBER: 91:93066

TITLE: UV-cured organosilicon lacquer for finishing metalloceramics

AUTHOR(S): Kadykov, V. V.; Kochkin, D. A.

CORPORATE SOURCE: Mosk. Inst. Neftekhim. Gazov. Prom., Moscow,  
USSR

SOURCE: Lakokrasochnye Materialy i Ikh Primenenie  
(1979), (3), 15-17  
CODEN: LAMAAD; ISSN: 0023-737X

DOCUMENT TYPE: Journal

LANGUAGE: Russian

AB The condensation of  $(\text{CH}_2:\text{CHCO}_2\text{CH}_2)_3\text{CCH}_2\text{OH}$  with  $(\text{H}_2\text{NSiR}_2)_2\text{O}$  (R is alkyl or aryl) gave a polymer soluble in organic solvents and useful as coatings for ceramic tiles. The exposure of tiles coated with this polymer containing benzophenone to UV light for 3.5 s crosslinked the coatings giving hard and impact-resistant surfaces. The coatings did not delaminate or change their properties after immersion in water for 3 days and after temperature changes from  $-60^\circ$  to  $70^\circ$ . The coatings withstood heating to  $250^\circ$  for short periods of time.

IT 71134-23-1  
(coatings, for ceramic tiles, UV crosslinking of)

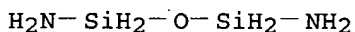
RN 71134-23-1 HCAPLUS

CN 2-Propenoic acid, 2-(hydroxymethyl)-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with 1,3-disiloxanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 71134-22-0

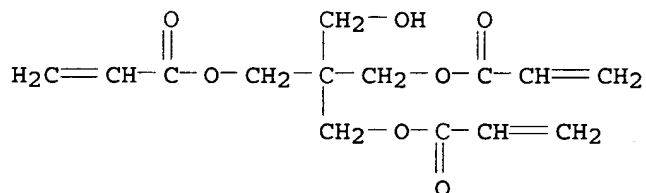
CMF H8 N2 O Si2



CM 2

CRN 3524-68-3

CMF C14 H18 O7



CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 57

IT Tiles

(ceramic, coatings for, tetraalkyldiaminodisiloxane-pentaerythritol triacrylate copolymers as photocurable)

IT Crosslinking

(photochem., of tetraalkyldiaminodisiloxane-pentaerythritol triacrylate copolymer coatings, on ceramic tiles)

IT Coating materials

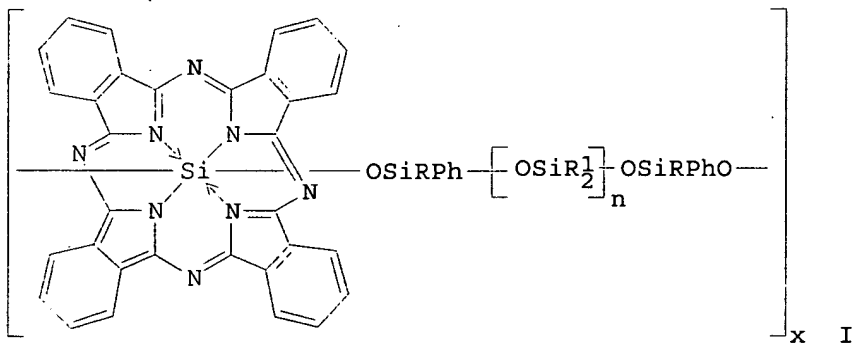
(photocurable, tetraalkyldiaminodisiloxane-

pentaerythritol triacrylate copolymers, for ceramic tiles)  
 IT 71134-23-1  
 (coatings, for ceramic tiles, UV crosslinking of)

L19 ANSWER 20 OF 20 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1979:122252 HCAPLUS  
 DOCUMENT NUMBER: 90:122252  
 TITLE: Silicon-phthalocyanine-siloxane polymers  
 INVENTOR(S): Wynne, Kenneth J.; Davidson, John  
 PATENT ASSIGNEE(S): United States Dept. of the Navy, USA  
 SOURCE: U. S. Pat. Appl., 22 pp. Avail. NTIS.  
 CODEN: XAXXAV  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 880514	A0	19780721	US 1978-880514	1978 0223
US 4132842	A	19790102	US 1978-880514	1978 0223
PRIORITY APPLN. INFO.:				

GI



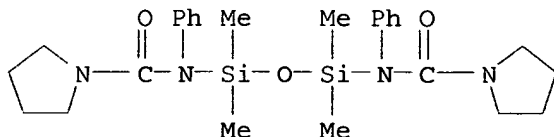
AB Title polymers (I; R and R1 = C1-8 alkyl; n = 1-8; x = ≤20), purple to blue solids soluble in organic solvents, are prepared by reaction of disilanol derivs. of silicon phthalocyanine with bis(ureido)dialkylsilanes or -siloxanes or with bis(dialkylamino)silanes or -siloxanes. For example, addition of QCONPhSiMe2OSiMe2NPhCOQ (Q = 1-pyrrolidiny1) [66024-68-8] to an equimolar amount of PcSi(OSiMePhOH)2 (Pc = phthalocyanine residue) [66024-67-7] in xylene under N and heating the mixture at reflux gave I (R = R1 = Me, n = 2, x = 14) [66024-69-9], a blue solid. Two other polymers were prepared  
 IT 66024-69-9P 66024-71-3P  
 (preparation and IR spectrum of)

RN 66024-69-9 HCAPLUS  
 CN Silicon, bis(methylphenylsilanediolato-O) [29H,31H-phthalocyaninato(2-)-N29,N30,N31,N32]-, (OC-6-12)-, polymer with N,N'-(1,1,3,3-tetramethyl-1,3-disiloxanediyl)bis[N-phenyl-1-pyrrolidinecarboxamide] (9CI) (CA INDEX NAME)

CM 1

CRN 66024-68-8

CMF C26 H38 N4 O3 Si2

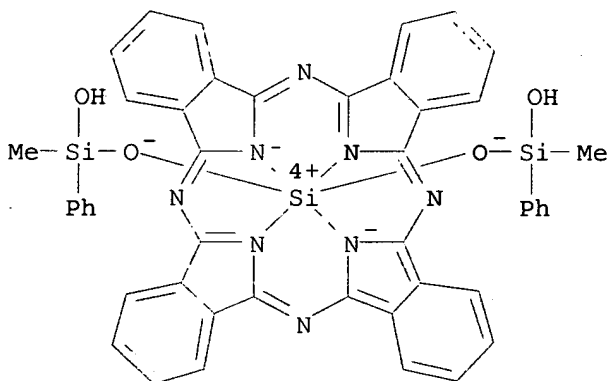


CM 2

CRN 66024-67-7

CMF C46 H34 N8 O4 Si3

CCI CCS

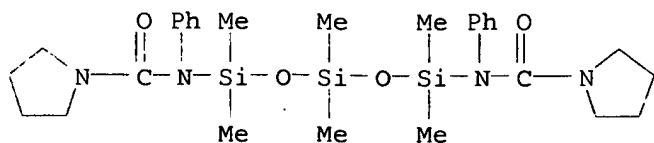


RN 66024-71-3 HCAPLUS  
 CN Silicon, bis(methylphenylsilanediolato-O) [29H,31H-phthalocyaninato(2-)-N29,N30,N31,N32]-, (OC-6-12)-, polymer with N,N'-(1,1,3,3,5,5-hexamethyl-1,5-trisiloxanediyl)bis[N-phenyl-1-pyrrolidinecarboxamide] (9CI) (CA INDEX NAME)

CM 1

CRN 66024-70-2

CMF C28 H44 N4 O4 Si3

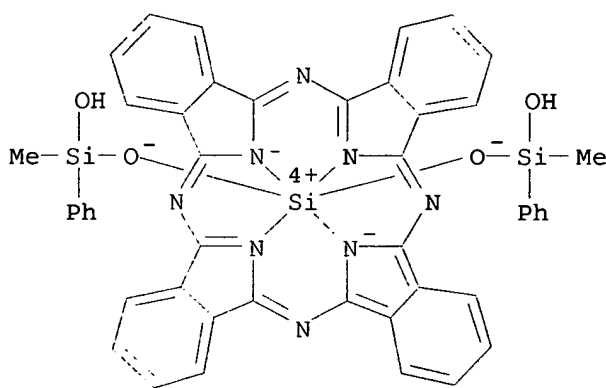


CM 2

CRN 66024-67-7

CMF C46 H34 N8 O4 Si3

CCI CCS



IT 68111-08-0P

(preparation of)

RN 68111-08-0 HCAPLUS

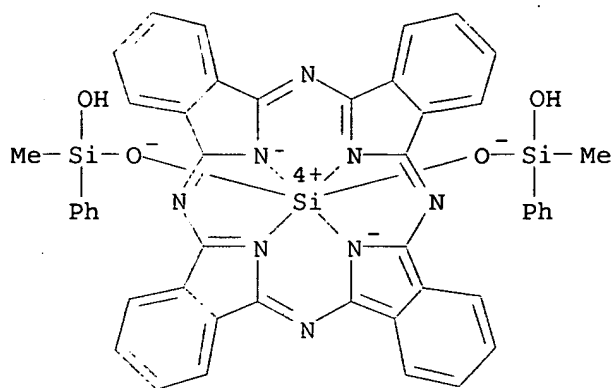
CN Silicon, bis(methylphenylsilanediolato-O) [29H,31H-phthalocyaninato(2-)-N29,N30,N31,N32]-, (OC-6-12)-, polymer with N,N,N',N',1,1,3,3,5,5-decamethyl-1,5-trisiloxanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 66024-67-7

CMF C46 H34 N8 O4 Si3

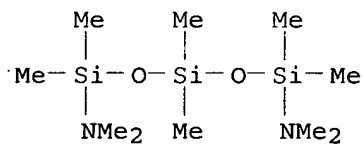
CCI CCS



CM 2

CRN 24681-96-7

CMF C10 H30 N2 O2 Si3



CC 35-3 (Synthetic High Polymers)

Section cross-reference(s): 40

IT 66024-69-9P 66024-71-3P

(preparation and IR spectrum of)

IT 62725-50-2P 66024-68-8P 66024-70-2P 66024-72-4P

68111-08-0P

(preparation of)